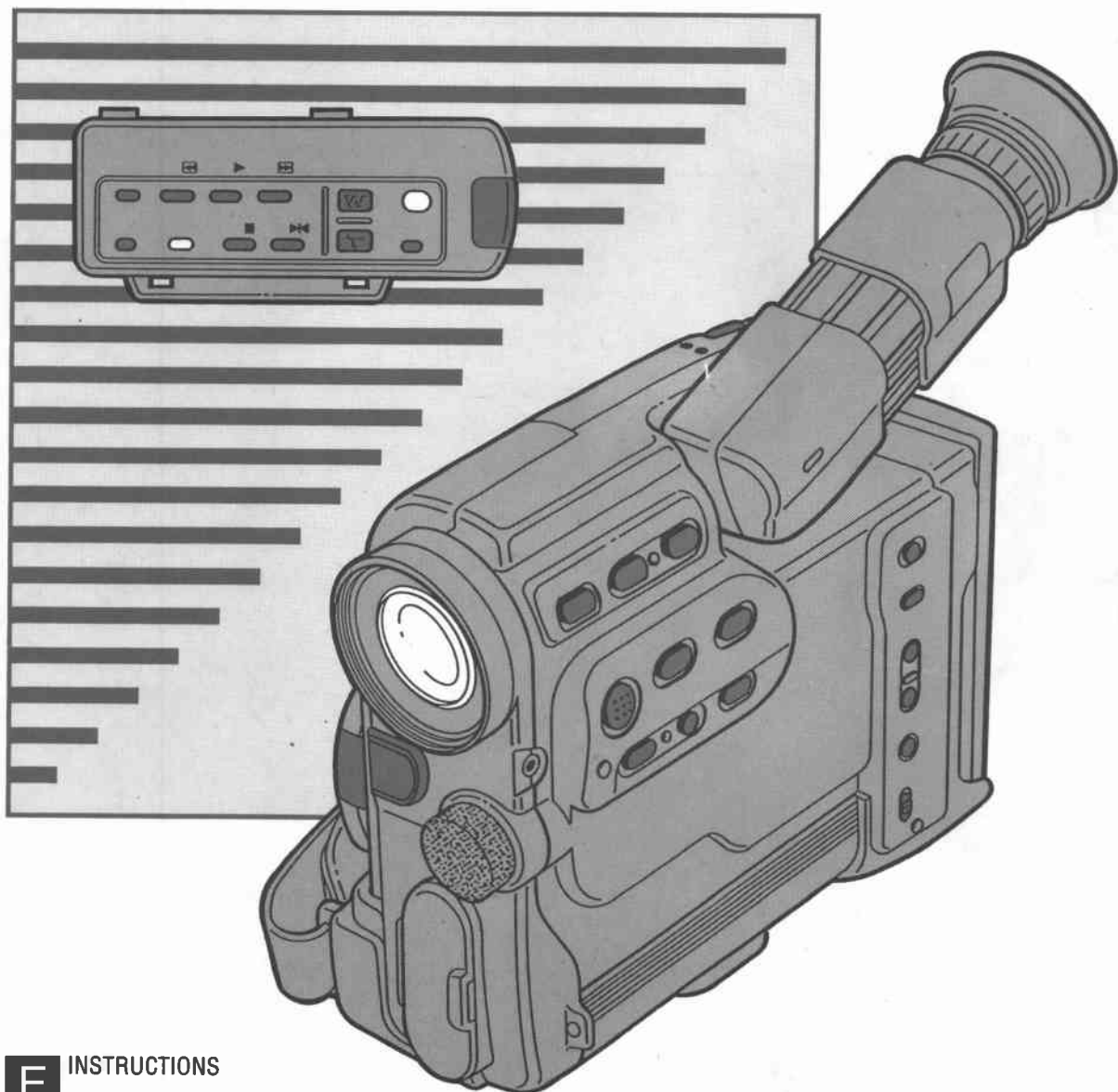


Canon *UC10*

8mm VIDEO CAMCORDER

Instruction Manual





Thank you for purchasing the Canon 8mm Video Camcorder UC10. This camera can be used for both recording and playback of video cassettes in 8mm format.

• Use 8mm video cassettes marked with an **8** (P5 type).

■ Please check that this package contains the following items:

UC10	[Lens Cap and Lens Cap Cord	BP-E77K Battery Pack
		WL-1 Wireless Controller	CA-100 Compact Power Adapter
		Two R03/AAA Batteries	RU-100 RF Unit
		DC-100 DC Coupler	SS-200 Shoulder Strap

■ Optional Accessories

BP-E722 Battery Pack	WD-37 Wide Converter
BT-U1 Battery Case	FS-37 Filter Set
CB-110 Car Battery Adapter	FS-37U Filter Set
MC-100 Multi-battery Charger	DM-300 Super-directional Microphone
HC-U1 System Case	MM-100 Mixing Microphone
SC-U1 Soft Carrying Case	WS-20 Wrist Strap
VK-U1 Video Backpack	VL-20 Battery Video Light
SK-U1 Sports Pack	SA-1 Adapter Bracket
SJ-U1 Soft Video Jacket	C-150 AV Cable
RS-U1 Rain Shield	PC-150 SCART Cable
TL-37 Tele-converter	

Important Usage Instructions

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK AND TO REDUCE ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

Contents

Important Usage Instructions	1
Before Using Your Camera	
Nomenclature	6
Wireless Controller.....	8
Viewfinder Displays.....	12
Power Sources	16
Battery Pack	16
AC Power/Car Battery.....	20
BT-U1 Battery Case.....	21
Camera Preparations.....	22
Attaching Straps.....	22
Adjusting Grip Belt.....	22
Attaching Lens Cap Cord.....	22
Attaching and Removing Lens Cap	22
Adjusting Viewfinder Angle	23
Adjusting Diopter	23
Removing and Attaching Finder	23
Setting Date and Time	24
Concerning the Rechargeable Lithium Battery.....	26
Loading and Unloading Video Cassettes	27
Basic Operations	
CAMERA and PLAY Modes	30
Camera Recording.....	32
Record Search.....	36
Record Review	37
Playback Connection	38
Playback Procedure.....	44
Special Playback Methods.....	46
Tape Return.....	48

Advanced Operations

Focusing	50
Zooming	53
Menu System	54
Edit-erase	56
High-Speed Shutter	58
White Balance	60
About Backlighting	62
Gain-up	63
Fade	64
Fade Trigger	65
Self-Timer Recording	67
Blank Tape Search (B.T.S.)	68
Selecting Tape Speed	69
Adding Titles to Recordings	70
Displaying Titles/Recording Titles	76
Recording Date and Time	78
Tally Lamp off Function	79
Remote Sensor off Function	80
Using an External Microphone	81
Using a Tripod	81
Editing to Another VTR	82

Additional Information


Canon UC10 Video System Chart	86
Optional Accessories	87
Problems and Troubleshooting	94
Condensation (DEW)	96
Specifications	97

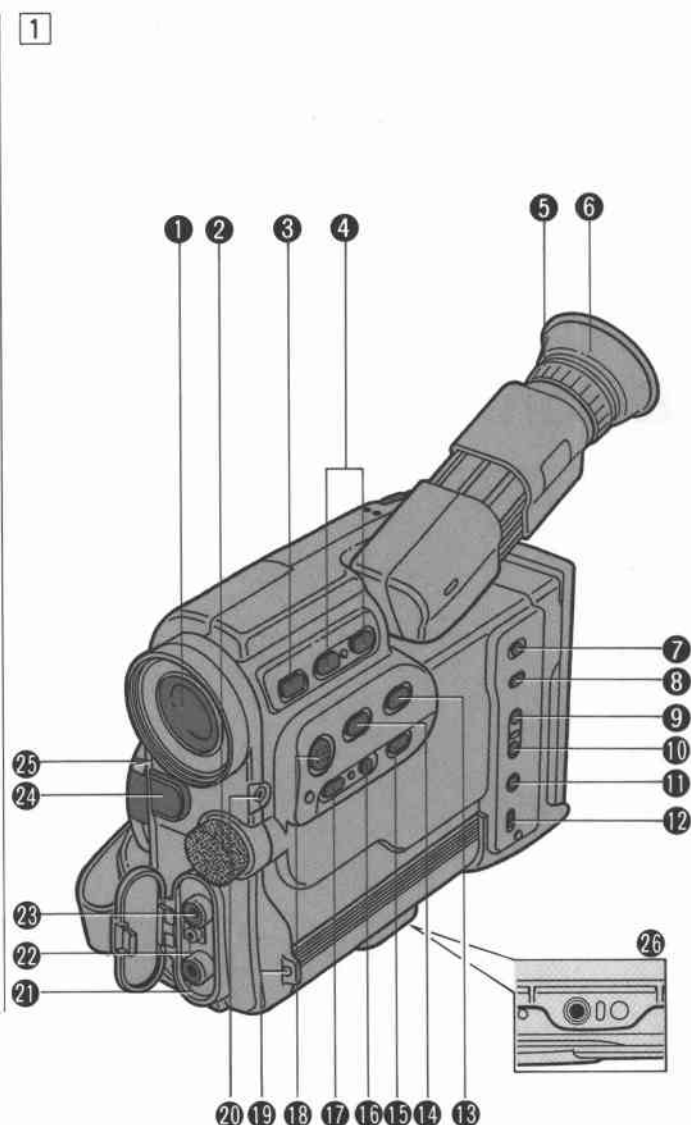


Before Using Your Camera

Nomenclature

Right View 1

- Lens
- Microphone
- AF ON/OFF Button
- POWER FOCUS Buttons
- Diopter Adjustment Ring
- Eyecup
- C. RESET Button
- MENU Button
- ▶ (Play) Button
- REC SEARCH/+ (Forward) Button
- ▶▶ (Fast Forward) Button
- REC SEARCH/- (Backward) Button
- ◀◀ (Rewind) Button
- SELECT Button/  (Record Review) Button
- (Stop) Button
- EDIT Switch
- DATE Button
- BLC (Backlighting Compensation) Button
- DISPLAY (Digital Title) Button
- MODE/COLOUR (Digital Title) Button
- MEMO (Memory) (Digital Title) Button
- FADE Button
- Lens Cap Attachment Loop
- MIC (Microphone) Terminal
- Audio Output Terminal
- DC Output Terminal
- Video Output Terminal
- Remote Sensor
- Tally Lamp
- Tripod Sockets



Tally Lamp

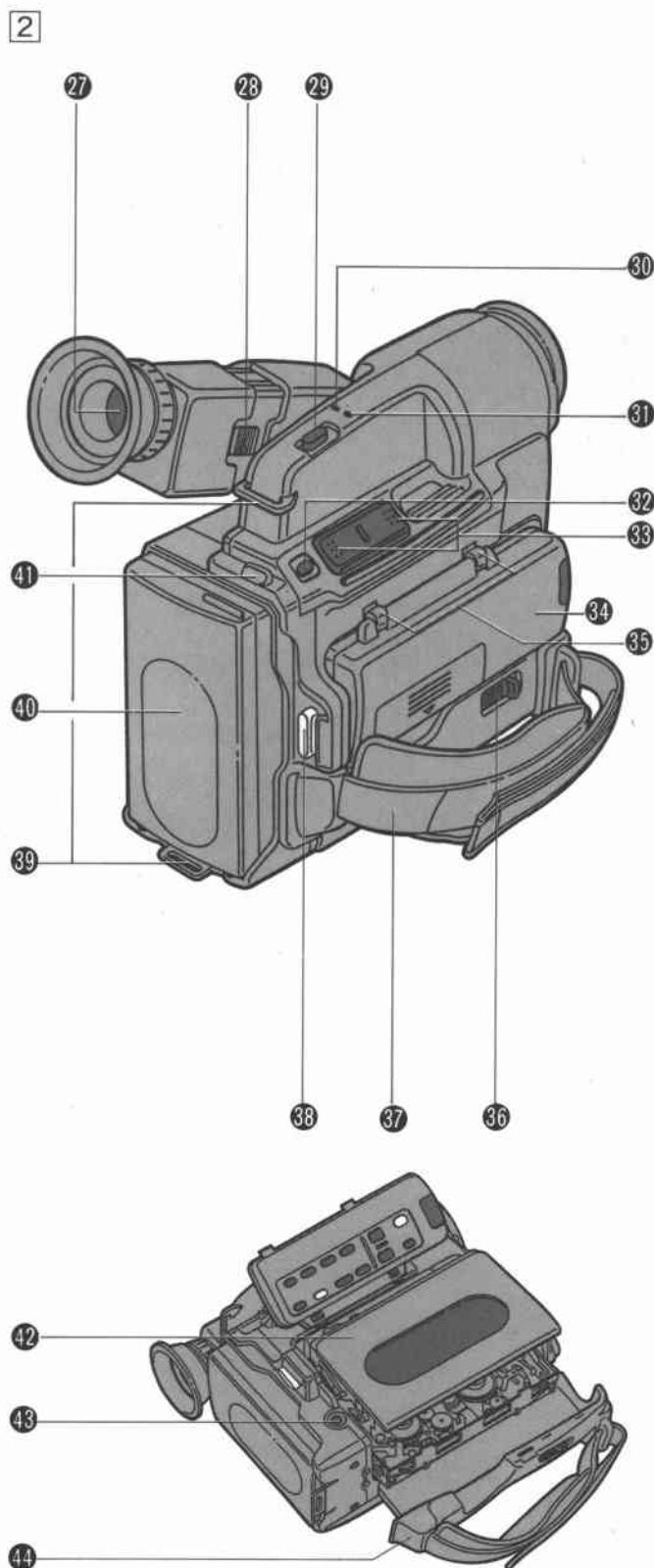
The tally lamp performs the following functions:

- | | |
|---------------------------------|-----------------|
| ● Recording | Flashes rapidly |
| ● Self-timer standby | Flashes slowly |
| ● Self-timer recording | Flashes rapidly |
| ● Wireless controller operation | Lights up |

- When TALLY is selected from MENU 3, the tally lamp will not operate.

Left View 2

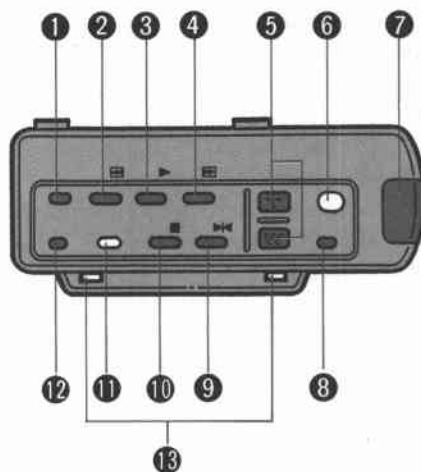
- Viewfinder
- Finder RELEASE Switch
- MODE SELECT Button
- CAMERA Indicator
- PLAY Indicator
- OPERATE Button
- Power Zoom Buttons
(T: Telephoto/W: Wide angle)
- Wireless Controller
- Wireless Controller Attachment Clips
- UNLOCK Switch
- Grip Belt
- Start/Stop Button
- Strap Attachment Bars
- Power Source Compartment
- BATT. (Battery) EJECT Lever
- Video Cassette Compartment
- EJECT Button
- Video Cassette Compartment Cover



Wireless Controller

Removed from the camera, the detachable wireless controller can be used to operate the camera from a distance.

- **TAPE RETURN Button**
- **REW Button**
- **PLAY Button**
- **FF Button**
- **ZOOM Buttons**
- **START/STOP Button**
- **Transmitter**
- **ON SCREEN Button**
- **STILL Button**
- **STOP Button**
- **REC Button**
- **C. (Counter) RESET Button**
- **Attachment Bars**



Removing and Attaching Wireless Controller

Attached to the camera, the detachable wireless controller forms a comfortable grip when shooting and can be flipped up for easy playback control on a connected monitor.

To remove: 1

1. **Lift up wireless controller.**
 - Make sure video cassette compartment is closed.
2. **Move wireless controller attachment bars toward gaps in clips and remove from camera.**

To attach: 2

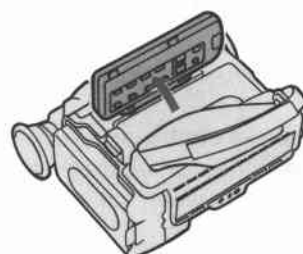
1. **Insert bars on wireless controller into clips on camera.**
 - Make sure video cassette compartment is closed.
2. **Press wireless controller down until it clicks and attaches securely to video cassette compartment cover.**

Note:

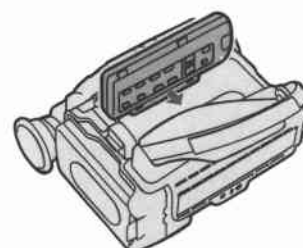
- Do not use excessive strength when attaching and removing the wireless controller. This may result in damage to the clips and bars.

1

1

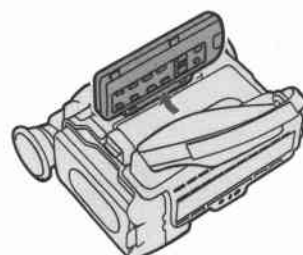


2

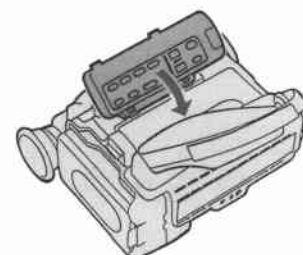


2

1



2



Operation

Attached to camera 1

Place camera so that the attached wireless controller is on top. Lift up wireless controller and press operating buttons.

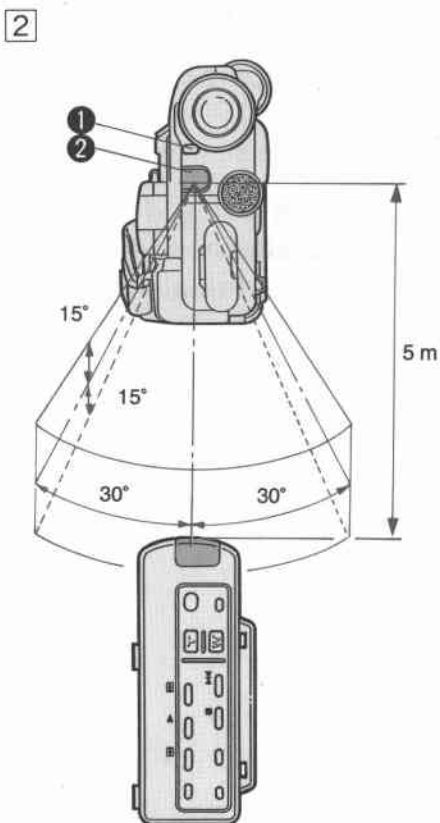
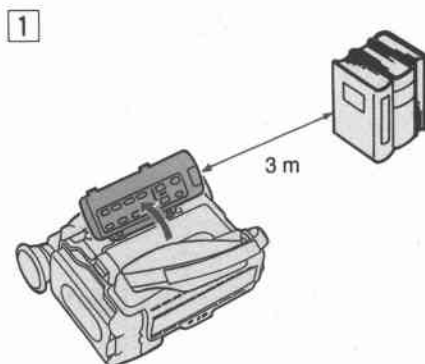
The wireless controller operates the camera by emitting infrared signals reflected by surrounding surfaces. The tally lamp lights up when the remote sensor receives the wireless controller's signals.

The camera cannot receive the signals from the wireless controller if there is no reflecting surface within approximately 3 metres in front of camera.

Removed from camera 2

Use wireless controller from a position within 15° above and below, and 30° to either side of the remote sensor and not more than 5 metres away from camera.

- 1 Tally Lamp
- 2 Remote Sensor



Inserting batteries 3

The wireless controller operates on two R03/AAA batteries.

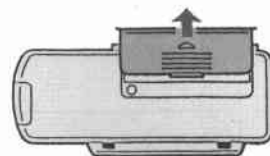
1. **Press down on battery compartment cover and slide off in direction of arrow.**
2. **Insert two R03/AAA batteries, checking the polarity (+ and -). Be careful not to reverse polarity of batteries.**
3. **Replace cover following guide grooves.**

Notes:

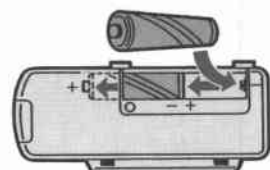
- Do not leave the wireless controller:
 - 1 Exposed to direct sunlight
 - 2 Near a heater
 - 3 In a hot or humid place
- The wireless controller uses an infrared beam to transmit signals, so sunlight or fluorescent light may shorten the operating distance. The camera may also have some difficulty in detecting the signal if the wireless controller is used at extremely close range.
- The wireless controller will not operate if SENSOR has been selected from MENU 3. (See p. 80)
- The wireless controller does not operate when the RS-U1 Rain Shield is attached to the camera.
- When changing exhausted batteries, replace all batteries at once.

3

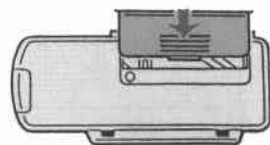
1



2



3

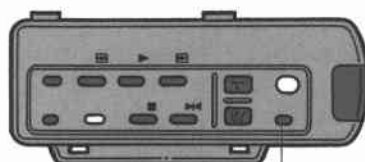
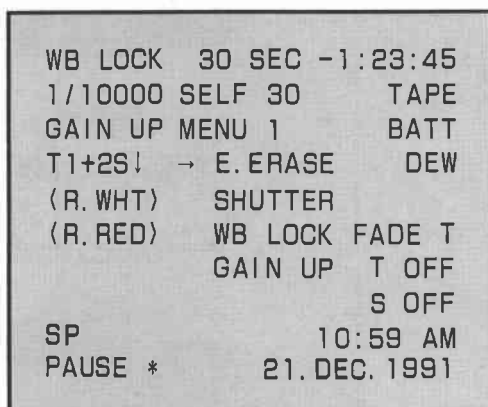


Viewfinder Displays

Press the ON SCREEN button on the wireless controller to see the viewfinder displays on a connected TV screen. Press the ON SCREEN button again to cancel the display.

• Only titles, date and time are recorded with the scenes.

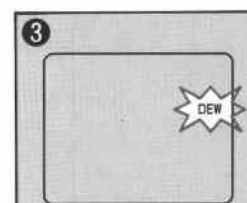
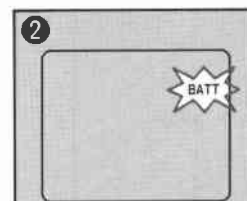
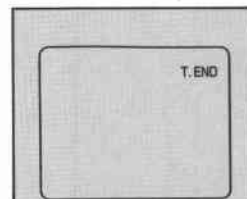
(A)



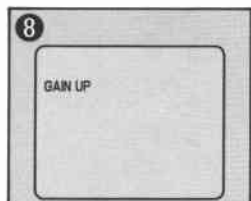
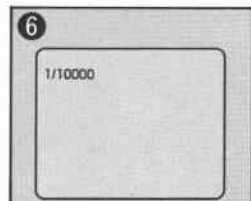
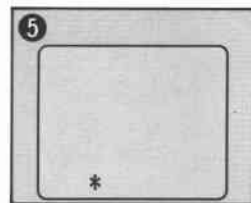
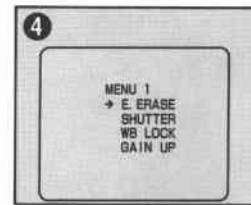
(B)

- (A) Viewfinder Display
(B) ON SCREEN Button

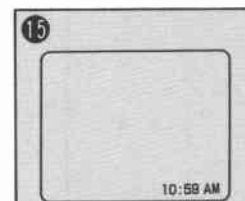
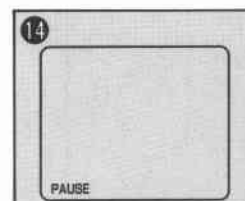
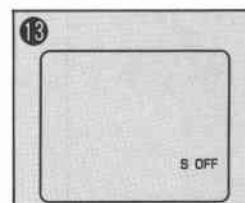
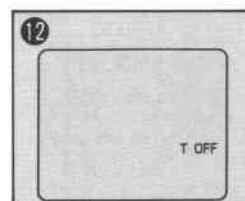
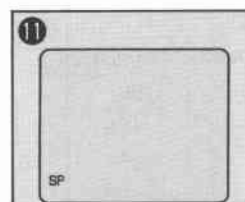
NO. Mode	Display	Description
① Tape Status	TAPE (flashes)	No cassette is loaded or an unrecordable cassette is loaded.
	T. END	Tape has reached the end.
② Battery Warning	BATT (flashes)	Battery charge is nearly exhausted.
③ Condensation Warning	DEW (flashes)	Condensation is detected in camera.



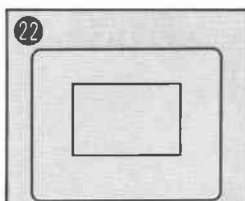
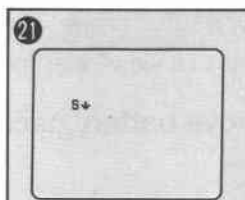
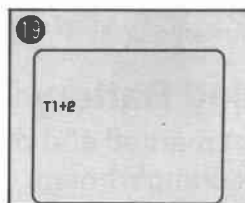
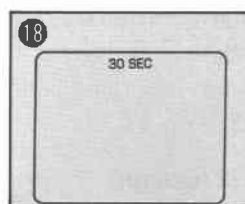
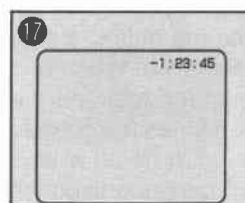
NO.	Mode	Display	Description
④	Menu 1	MENU 1 E. ERASE SHUTTER WB LOCK GAIN UP	Menu 1 display: Each function of this menu can be selected and set.
	Menu 2	MENU 2 FADE T SELF B.T.S. SP/LP	Menu 2 display: Each function of this menu can be selected and set.
	Menu 3	MENU 3 DT TINT DT S/W TALLY SENSOR	Menu 3 display: Each function of this menu can be selected and set.
⑤	Edit-erase	*	Appears when edit-erase function can be used, for approximately 40 seconds after recording starts.
⑥	High-Speed Shutter	No display 1/60 1/125 1/250 1/500 1/1000 1/2000 1/4000 1/10000	Normal shutter speed (1/50) 1/60th of a second 1/125th of a second 1/250th of a second 1/500th of a second 1/1000th of a second 1/2000th of a second 1/4000th of a second 1/10000th of a second
⑦	White Balance	(No display) WB LOCK	Auto white balance White balance lock
⑧	Gain-up	GAIN UP	Gain-up mode



NO.	Mode	Display	Description
9	Fade Trigger	FADE T T (flashes)	Fade trigger function is selected from MENU 2. Camera is ready to record with fade in or fade out.
10	Timer Recording Menu	SELF SELF 30	Self-timer recording menu
11	Tape Speed	SP LP	Standard play Long play
12	Tally Lamp	T OFF	Tally lamp off mode is selected.
13	Remote Sensor	S OFF	Remote sensor off mode is selected.
14	Operation	PAUSE REC PLAY STILL STOP FF REW EJECT EJECT (flashes)	Record pause Recording Normal playback, fast forward playback or rewind playback Still playback Stop Fast forward or fast forward search Rewind or rewind search Eject function Safety mechanism functions.
15	Time	12:00 AM to 11:59 PM	Present time



NO. Mode	Display	Description
16 Date	1. JAN. 1991 to 31. DEC. 2010	Current date
17 Tape Counter	-9:59:59 to 9:59:59	Tape counter reading
18 Timer Recording	0 SEC-10 SEC	Recording reminder
	10 SEC-1 SEC	Self-timer countdown
	30 SEC-1 SEC	Self 30 seconds recording
19 Title memory/ display	T1	When creating title, it can be stored in title memory 1. When displaying title, title stored in title memory 1 appears.
	T2	When creating title, it can be stored in title memory 2. When displaying title, title stored in title memory 2 appears.
	T1 + 2	Titles in memory 1 and memory 2 are displayed together. They cannot be stored.
	T1 * 2	Titles in memory 1 and 2 are displayed alternately. They cannot be stored.
20 Digital Title	WHT, BLU, GRN, SKY, RED, VIO, YEL, BLK	Digital title colours are displayed. Digital title colour selection: white, blue, green, sky blue, red, violet, yellow, black.
	<WHT>	See-through colour (The same eight colours can be selected.)
	R. WHT	Reverse colour (The same eight colours can be selected.)
	<R. WHT>	Reverse see-through colour (The same eight colours can be selected.)
21 Scroll Display	S ↓, S ↑ S →, S ←	Scrolling title mode is selected. The arrow indicates direction of scrolling.
	Wipe Display	Wiping title mode is selected. The arrow indicates direction of wiping.
22 Focus mode	(Focus zone)	When autofocus mode is selected, the focus zone is displayed.
	No display	The focus zone is not displayed in power focus mode.



Power Sources

Battery Pack

The battery pack is a rechargeable power source. Make sure it is fully charged before use. This camera can also be operated from AC power or from a car battery (see page 20).

- The power consumption of the video camera varies according to the operating conditions. Consequently, the actual recording time may be shorter than the time shown on p. 17. Using the battery pack in low temperatures will shorten the recording time. When recording under these conditions, it is recommended to prepare enough battery packs to cover two or three times the scheduled length of time. Make sure the power is turned off when not using the camera. The camera will continue to consume power when the power is on. (The camera also continues to consume power even when the power is turned off. See page 19.)

① BP-E77K

Continuous recording time of BP-E77K is approximately 65 minutes.

② BP-E722 (Option)

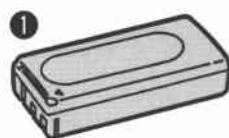
With about twice the capacity of BP-E77K this battery pack can be used for lengthy recordings. The continuous recording time of BP-E722 is approximately 130 minutes.

Attaching Battery Pack ①

1. **Insert marked end of battery pack into battery pack compartment.**
 - Slightly lift viewfinder for easy battery loading.
2. **Press battery pack until it clicks and locks into place.**

Removing Battery Pack ②

1. **Hold BATT. EJECT lever pressed in direction of arrow and pull top of battery pack as shown.**
 - Slightly lift viewfinder for easy battery unloading.
2. **Remove battery pack.**

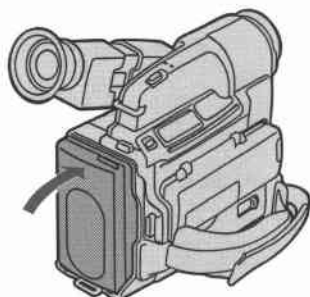


①

1



2



②

1



2



Charging Battery Pack

The following accessories can be used to charge the battery pack.

- CA-100 Compact Power Adapter (see page 20)
- CB-110 Car Battery Adapter (Option) (see page 20)
- MC-100 Multi-battery Charger (Option) (see page 88)

Using the CA-100 3

(For information on other accessories, refer to the relevant instruction manuals.)

1. Connect battery pack to CA-100.

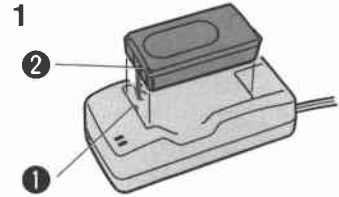
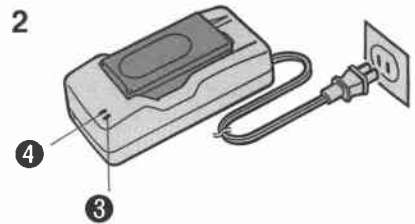
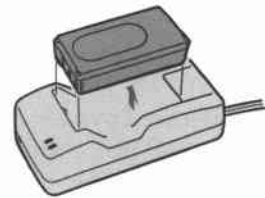
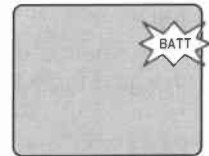
- Make sure that battery pack guide 1 on the CA-100 and battery pack groove 2 are properly aligned before attaching battery pack.

2. Plug into mains outlet.

- Operate indicator (green) 3 lights up and charge indicator (orange) 4 flashes as charging begins.

3. When charging has been completed (the charge indicator lights up), remove battery pack.

- Lift battery pack straight up to remove.

3

2

3

4


Battery pack continuous recording times and CA-100 charging times are shown below.

Battery Pack	Continuous recording time	Charging time
BP-E77K	approx. 65 minutes	approx. 70 minutes
BP-E722	approx. 130 minutes	approx. 130 minutes
BT-U1 (using six AA alkaline batteries)	approx. 60 minutes	—

Battery Warning 4

When battery charge is nearly exhausted, "BATT" flashes in camera viewfinder and CAMERA or PLAY indicator also flashes. Replace or recharge battery pack (be sure to turn camera off before removing battery pack).

- If camera is turned on with an exhausted battery pack attached, it may turn off immediately, without a "BATT" warning.

Using Your Battery Packs Effectively Immediately After Purchase

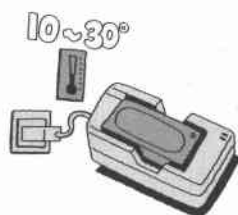
- Newly purchased battery packs have not been charged, so charge them completely before using.
- Battery's (+) and (-) terminals may short circuit if they come in contact with any metal objects. Take care when handling the battery pack, and keep it in plastic or other protective covering when carrying or storing.
- When charging a brand-new battery pack or one that has not been used for approximately three months, charge it completely once (until charge indicator lights up). Then disconnect and reconnect the battery pack to CA-100 (or CB-110) and charge it once more.

Charging

- It is possible to charge the battery pack when the ambient temperature range is between 0°-40°C. For best results, charge the battery pack when ambient temperature is between 10°-30°C.
- After the battery pack has been fully charged, do not try to recharge it. Recharging a fully charged battery pack can cause it to become overcharged.
- Immediately after use, the battery pack will be hot and it is best not to recharge it at this time. Make sure that the battery pack has cooled down before recharging.
- When you don't expect to use the battery pack for a long time (three months or more), store in a discharged condition. Storing in a charged condition will shorten operating life of battery pack.
- Always disconnect the DC-100 from the CA-100 (or CB-110) before charging the battery pack.

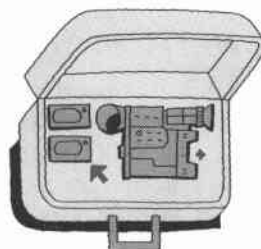
General Use

- Battery pack normally becomes warm during use.
- Be sure to turn camera off (the CAMERA or PLAY indicator goes off) before removing battery pack. Removal during operation may cause damage.
- Recharging battery pack before it is fully discharged will cause its electrical storage capacity to decrease (charge memory). In this case, discharge the battery pack until the CAMERA or PLAY indicator on the video camera turns off. Recharging the battery using the optional MC-100 Multi-battery Charger's refresh (recondition) feature will restore the battery pack.
- When battery pack has been discharged below a specified level, you may be unable to recharge it completely (battery pack will not recharge fully even though charge indicator lights up). In such a case, charge and discharge battery pack repeatedly (2-3 times) until it is recharged properly.



Storage

- When the battery pack is connected to the camera, it will continue to discharge even when the power is turned off, and this may cause it to become discharged below the specified level. Disconnect the battery pack from the camera when storing.
- When storing the battery pack for a long period of time, choose a cool, chemically stable location. Allow it to discharge completely by connecting it to the camera and waiting until the CAMERA or PLAY indicator turns off (about 10 minutes after it begins to flash).
- If battery pack has been stored for three months or longer, a single recharging will not be sufficient to restore it to full operability. In such a case, completely recharge and completely discharge battery pack 2-5 times. This will restore it to its original capacity.



Terminology

•Overcharging

Charging battery pack after it has already been fully charged.

•Discharging below specified level

Continuing to discharge battery pack after its voltage level has fallen below a specified level (5.0 V for the nickel-cadmium batteries used by Canon 8mm video camcorders).

•Charge memory

When a nickel-cadmium battery is only partially discharged (not long enough for charge to cut off automatically), then recharged and used again, continuous recording time decreases. The battery pack will temporarily be incapable of discharging to final voltage level.

AC Power/Car Battery

Camera can also be operated using AC power, or car battery. When operating from AC power, use CA-100 Compact Power Adapter and DC-100 DC Coupler.

When operating from a car battery use CB-110 Car Battery Adapter and DC-100 DC Coupler.

CA-100 Compact Power Adapter (Using AC power) [5]

Plug into mains outlet.

Input voltage: 100—240 V AC, 50/60 HZ

- Use with the DC-100 DC Coupler.
- Refer to the CA-100 instruction manual for further details.

CB-110 Car Battery Adapter (Option) (Using car battery) [6]

Plug into cigarette lighter socket. (For use only with 12—24 V DC, negative ground car battery.)

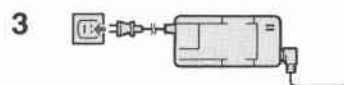
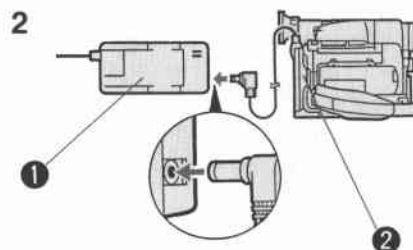
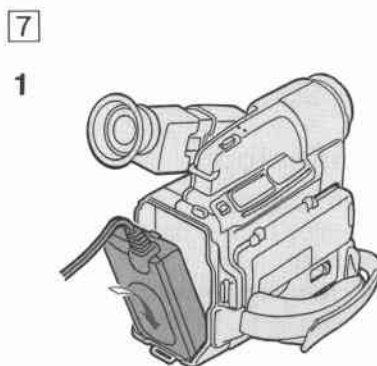
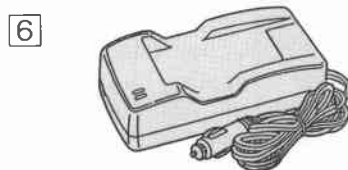
- Use with the DC-100 DC Coupler.
- Refer to the CB-110 instruction manual for further details.

CA-100/CB-110 Connection Procedure [7]

- 1. Insert DC-100 DC Coupler into power source compartment.**
 - Insert and remove in the same way as the battery pack (see page 16).
- 2. Connect DC-100 cable to CA-100 (or CB-110) adapter.**
 - CA-100 (CB-110)
 - DC-100
- 3. Insert AC plug of CA-100 into mains outlet. (Plug CB-110 into cigarette lighter socket).**
 - Use the CB-110 with the car engine idling.
- 4. Turn camera on.**

Note:

- Using compact power adapter near a TV may cause TV to emit noise. If this occurs, move compact power adapter away from TV or aerial cable.



BT-U1 Battery Case (option)

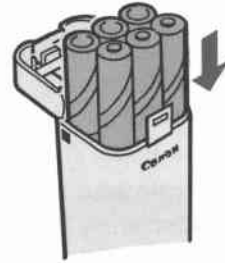
The optional BT-U1 Battery Case allows you to use alkaline batteries for the power source.

1. **Load six LR6/AA alkaline batteries into the BT-U1 Battery Case.**
 - Be careful not to reverse the polarity of the batteries.
2. **Insert the BT-U1 Battery Case into the power source compartment.**
 - Insert and remove in the same way as battery pack (see page 16).
3. **Turn camera on.**

Notes:

- When replacing the batteries, turn camera off before removing the BT-U1 Battery Case.
- Use only alkaline batteries. Other types of batteries cannot be used.
- When changing exhausted batteries, replace all batteries at once.
- When not using the BT-U1 for a long time, remove the batteries.
- Use in low temperatures is not recommended.
- Refer to the BT-U1 instruction manual for further details.
- Battery's (+) and (−) terminals may short circuit if they come in contact with any metal objects. Take care when handling the battery case, and keep it in plastic or other protective covering when carrying or storing with batteries inside.
- Depending on the type of alkaline battery used, the continuous recording time may decrease greatly or in some cases the power may not turn on.

1



2



3



Camera Preparations

Attaching Straps 1

Attach the SS-200 shoulder strap by passing ends through the upper and lower strap attachment bars located on rear of camera. Adjust length and fasten.

1 SS-200 Shoulder Strap

Attach the WS-20 wrist strap (option) by passing it through the lower strap attachment bar located on rear of camera. Adjust length to hang comfortably from wrist and fasten.

2 WS-20 Wrist Strap (option)

Adjusting Grip Belt 2

Adjust the length of the grip to provide a comfortable, secure grip.

Attaching Lens Cap Cord 3

Pass the provided cord through the loop on the lens cap, as shown. 3

Then pass the lens cap cord through the lens cap attachment loop on the camera.

Attaching and Removing Lens Cap 4

When attaching or removing lens cap, press the buttons on both sides of the cap.

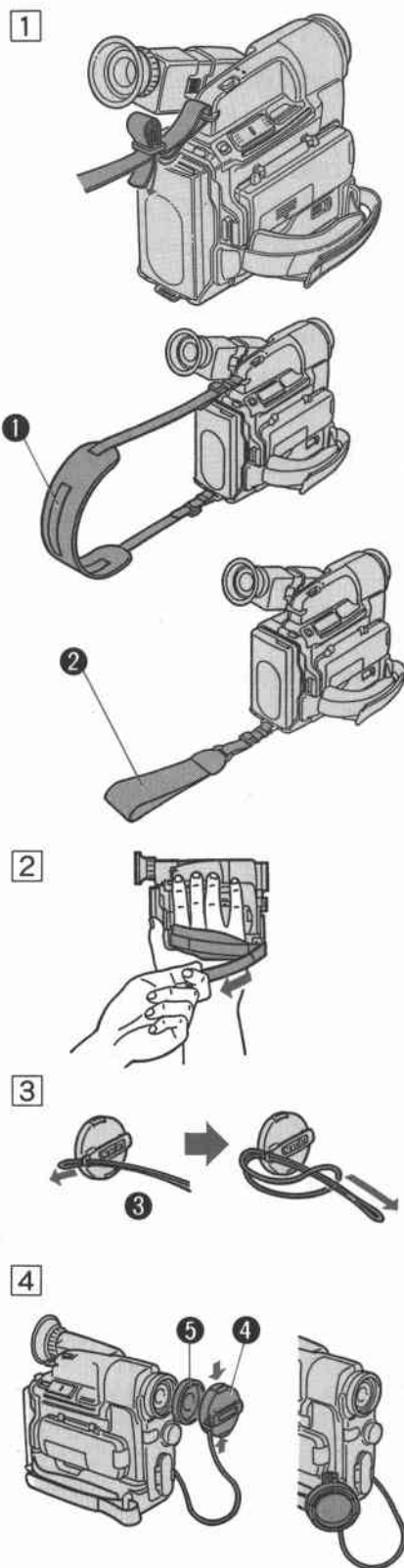
When using a filter, attach lens cap over the filter.

Before recording, remove lens cap and hook it onto the grip belt using the clip on the lens cap.

Replace lens cap by attaching it over the lens, when you stop recording or turn camera off.

4 Lens Cap

5 Filter



Adjusting Viewfinder Angle [5]

Viewfinder rotates 90°. Choose desired angle for recording. When recording, pull out the eyepiece adapter from the finder and push it back in when recording is finished.

Adjusting Diopter [6]

Adjust diopter to individual eyesight correction when using camera for the first time, when changing camera operators, or when changing eye distance from the finder.

To adjust diopter:

Turn camera on and pull out the finder. Turn diopter adjustment ring until viewfinder displays are clearly visible.

① Diopter Adjustment Ring**Removing and Attaching Finder** [7]

When there is dust or lint on viewfinder display, remove finder and clean it with a commercially available blower brush.

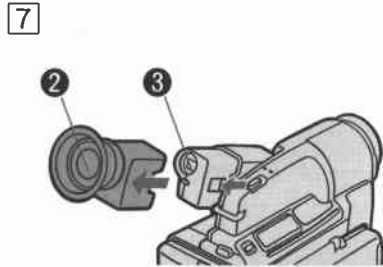
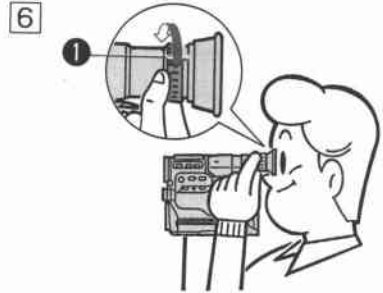
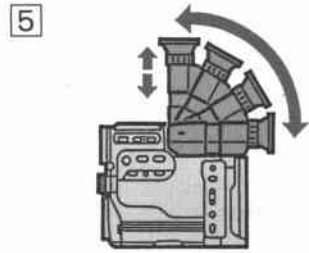
To remove:

1. Pull finder out from its base until it clicks.
2. Slide **RELEASE** switch in the direction of the arrow and gently slide finder off.

To attach:

1. Align finder with base and press finder in until it clicks.

- ② Finder
- ③ Viewfinder Display



Setting Date and Time

Set date and time before using camera for the first time.
Reset if camera has been stored for a long period and the date and time display has stopped or an incorrect date and time are displayed.

Example: Setting date to 8 July, 1992 and time to 2:35 pm.

- ① **DATE Button**
- ② **+/- Buttons**
- ③ **SELECT Button**
- ④ **OPERATE Button**

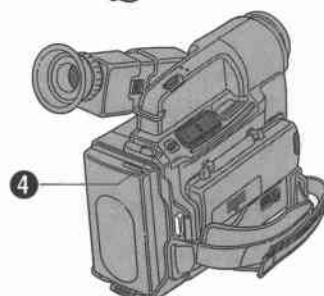
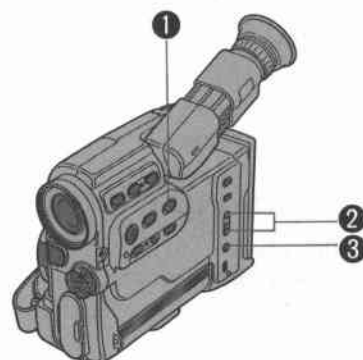
1. **Turn camera on.**
 - Camera indicator (red) lights up.
2. **Press and hold DATE button for more than three seconds.**
 - Year display flashes.
3. **Press (+) and (-) buttons to scan year display.**
 - Press once to scan display one year at a time.
 - Press and hold to scan display years quickly.
 - Press (-) button to scan display in reverse order.

→ 1991 ⇄ 1992 ⇄ ... ⇄ 2008 ⇄ 2009 ⇄ 2010 ←

4. **Press SELECT button.**
 - Year is set and month display flashes.
5. **Press (+) and (-) buttons to scan month display.**

→ JAN ⇄ FEB ⇄ ... ⇄ OCT ⇄ NOV ⇄ DEC ←

6. **Press SELECT button.**
 - Month is set and day display flashes.



1 **OPERATE**



2 **DATE**



3 **REC SEARCH**



4 **SELECT**



5 **REC SEARCH**



6 **SELECT**



7. Press (+) and (-) buttons to scan day display.

- Camera knows the number of days in each month and which years are leap years.

→ 1 ⇄ 2 ⇄ 3 ⇄ 4 ⇄ 5 ⇄ ... ⇄ 27 ⇄ 28 ⇄ 29 ⇄ 30 ⇄ 31 ←

8. Press SELECT button.

- Date is set and hour display flashes.

9. Press (+) and (-) buttons to scan hour display.

- Hour display rotates through 24 hours.

→ 12 AM ⇄ 1 AM ⇄ ... ⇄ 10 PM ⇄ 11 PM ←

10. Press SELECT button.

- Hour is set and minute display flashes.

11. Press (+) and (-) buttons to scan minute display.

- To return to year display press SELECT button.

→ 00 ⇄ 01 ⇄ 02 ⇄ ... ⇄ 58 ⇄ 59 ←

12. Press DATE button when correct minute is shown.

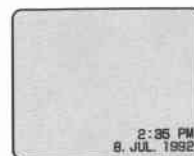
- Minute display stops flashing and auto date and time start functioning.
- Press DATE button to make display disappear from viewfinder.

Notes:

- To make a partial change to date or time setting, follow steps one and two. Then press SELECT button to select setting to be changed.

When the change has been made, press DATE button once more.

- To record date and time, see page 78.
- Date and time cannot be set in the following circumstances:
 1. During recording
 2. In PLAY mode
 3. When a menu is displayed

7 REC SEARCH**8 SELECT****9 REC SEARCH****10 SELECT****11 REC SEARCH****12 DATE**

Concerning the Rechargeable Lithium Battery

This video camera has a rechargeable lithium battery to supply power to the date and time memory and memory for other camera settings (see p. 55). Even when the battery pack is disconnected, the date and time function will keep on working. The lithium battery is automatically recharged whenever a power source is connected to the video camera. If the video camera is used regularly, the lithium battery will remain charged.

However, if the battery pack is removed and the video camera is stored for a long period, the lithium battery slowly discharges and the auto date/time function may stop operating. In this case, recharge the lithium battery by connecting a power source to the camera for approximately one whole day. Also reset the date and time (see page 24).

- The lithium battery can be recharged even when the video camera power is not turned on.

Loading and Unloading Video Cassettes

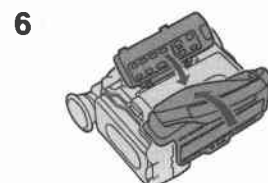
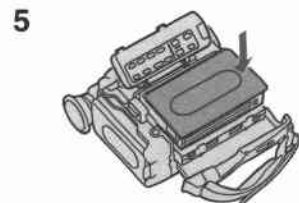
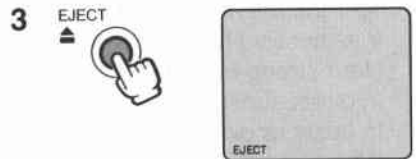
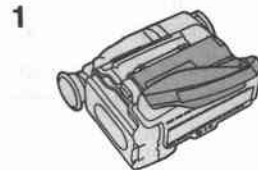
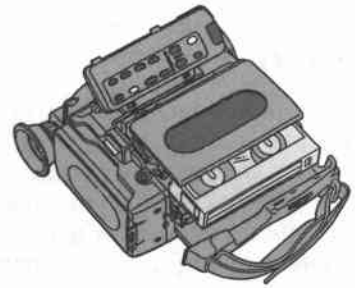
Use video cassettes with the **B** mark (P5 type). Be sure to attach a power source to the camera before loading or unloading a video cassette. When a power source is attached the EJECT button will work even if the camera is turned off.

Loading/Unloading

1. **Place the camera so that wireless controller compartment and hand grip are on top.**
2. **Lift wireless controller, slide UNLOCK switch and open video cassette compartment cover.**
 - With cover open, EJECT button is visible.
3. **Press EJECT button.**
 - Video cassette compartment opens automatically.
4. **Load/unload video cassette.**
 - When loading, gently insert video cassette with window facing out.
 - When unloading, remove video cassette by pulling straight out.
5. **Press PUSH mark on video cassette compartment.**
 - Video cassette compartment closes automatically.
6. **Close and press video cassette compartment cover until it clicks and return wireless controller to its original position.**

Notes:

- When EJECT button is pressed, video cassette compartment opens automatically. Do not try to pull compartment open during this automatic stage, as it may cause a malfunction.
- Tape counter will be reset to 0:00:00 when video cassette is loaded.
- EJECT button works with power turned off, if battery pack is attached.
- If a cassette is removed and then reloaded, the tape position will change slightly. Therefore, after reloading the cassette, use the record search function to locate the desired starting point (see page 36).
- While the video cassette compartment is in the process of closing, it pauses and reopens slightly before closing completely. This is not a malfunction.



Video Cassette Erasure Prevention Switch

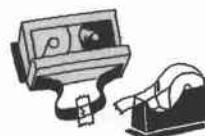
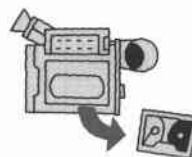
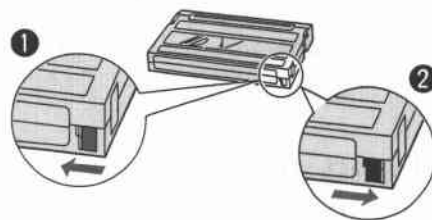
To prevent accidental erasure of recorded material, slide the switch at the bottom of the video cassette as shown. Returning the switch to its original position enables recording again. This applies to Canon 8mm Video Cassettes only. For other brands of cassettes, refer to their instruction manual for information on erasure prevention.

- "TAPE" flashes in viewfinder if you try to record on a video cassette that has been set for erasure prevention. Use another video cassette or set the switch to enable recording.

- 1 To Save: Erasure Prevention (Window Red)
- 2 To Record: Recording Possible (Window Black)

Notes:

- Do not leave the video cassette in the camera after use, especially when the camera will not be used for a long time. This may cause damage to the video cassette and heads.
- There are several holes in the back of the video cassette which are used for transferring information. Do not cover these with adhesive tape or other materials.
- Do not use video cassettes with damaged or spliced tape or ones that do not meet standards.
- Store video cassettes in their cases and avoid storing them under the following conditions:
 - In excessive heat or humidity
 - Near strong magnetic fields
 - In direct sunlight
 - In dusty or dirty places
 - Where mould may affect them



Basic Operations

CAMERA and PLAY Modes

The camera has two basic modes of operation: CAMERA mode for recording and PLAY mode for playback.

- ① CAMERA (red) Indicator
- ② PLAY (green) Indicator
- ③ MODE SELECT Button
- ④ OPERATE Button

CAMERA Mode ①

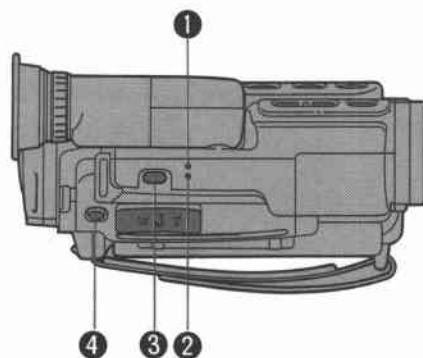
Make your recordings in CAMERA mode.

When camera is turned on, it automatically enters CAMERA mode and red CAMERA indicator lights up.

PLAY Mode ②

Use PLAY mode to play back your recordings.

Press MODE SELECT button once to select PLAY mode. Red CAMERA indicator goes off and green PLAY indicator lights up. In PLAY mode, scene will not appear in the viewfinder and connected TV monitor screen will appear blue. Also, date and time will appear in viewfinder and on TV monitor screen. To eliminate this, either press DATE button, change to CAMERA mode or press PLAY button.



CAMERA and PLAY Indicators

CAMERA indicator (during CAMERA mode) or PLAY indicator (during PLAY mode) lights up during normal operation, and flashes to warn that there is internal condensation or a malfunction, or to indicate that battery pack needs to be recharged.

Mode Selection 3

MODE SELECT button can be used to switch between CAMERA mode and PLAY mode.

The wireless controller can also be used to switch modes:

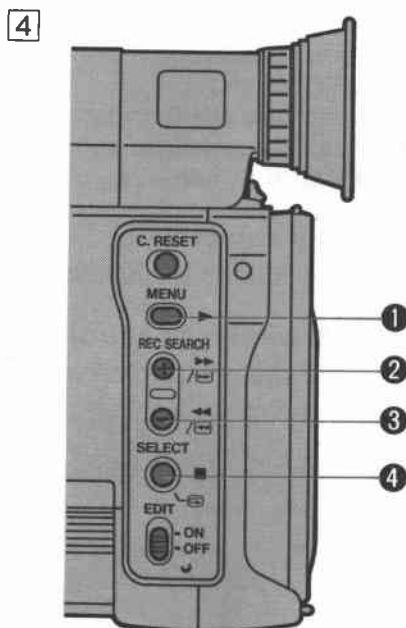
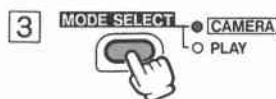
- If STOP button is pressed during CAMERA mode, the camera switches automatically to PLAY mode.
- If REC button is pressed while the camera is in PLAY mode and the tape is either stopped or paused, the camera automatically switches to CAMERA mode.
- It is impossible to change modes during the following operations:
 1. recording
 2. playback (except still playback)
 3. fast forward
 4. rewind

Dual-mode Buttons 4

The four buttons located on right side of camera have different functions in CAMERA and PLAY mode.

- Functions indicated in white are active during CAMERA mode.
- Functions indicated in blue are active during PLAY mode.

CAMERA mode (white)	PLAY mode (blue)
① MENU button	▶ (PLAY) button
② REC SEARCH (+) button	▶▶ (FF) button
③ REC SEARCH (–) button	◀◀ (REW) button
④ SELECT button	■ (STOP) button



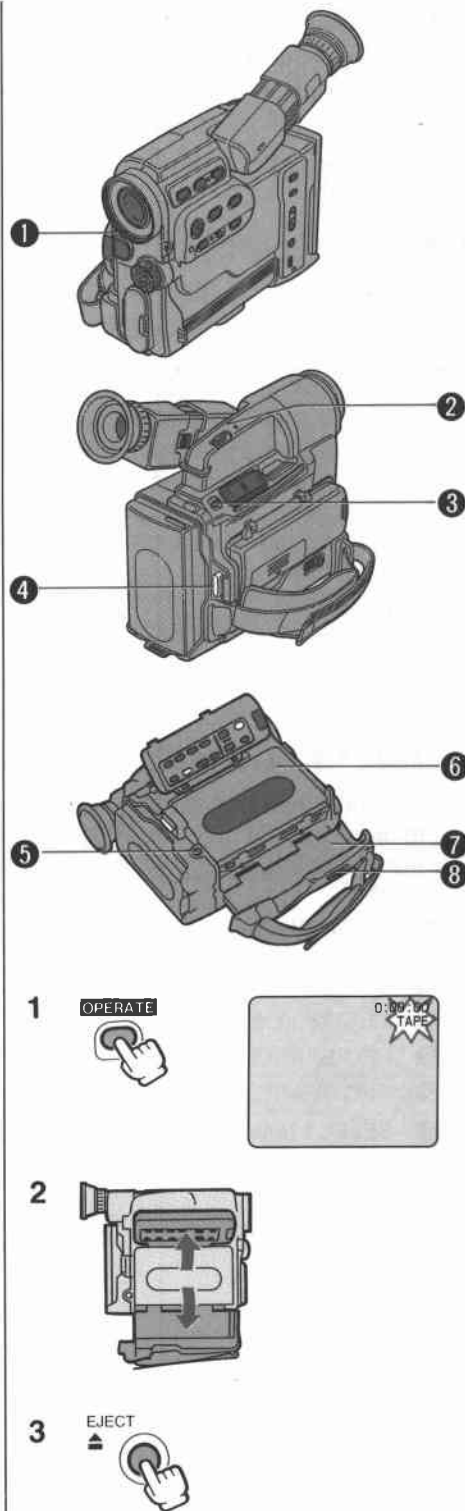
Camera Recording (CAMERA Mode)

Use 8mm video cassettes marked with an **8** mark (P5 type).

Camera Recording

- ① Tally Lamp
- ② CAMERA Indicator
- ③ OPERATE Button
- ④ Start/Stop Button
- ⑤ EJECT Button
- ⑥ Video Cassette Compartment
- ⑦ Video Cassette Compartment Cover
- ⑧ UNLOCK Switch

1. **Turn camera on.**
 - CAMERA indicator (red) lights up.
2. **Lift wireless controller, slide UNLOCK switch and open video cassette compartment cover.**
 - With cover open, EJECT button is visible.
3. **Press EJECT button.**
 - Video cassette compartment opens.



4. Load video cassette and close video cassette compartment and video cassette compartment cover.

- Camera goes into record pause mode.
- "TAPE" flashes in viewfinder if erasure prevention switch is set to "save".

5. Pull out finder in the direction of the arrow.

6. Press start/stop button.

- Recording starts.
- The tally lamp flashes rapidly and "REC" appears in viewfinder.
- To make more effective recordings, refer to the Advanced Operations section (pp. 49-83).

7. Press start/stop button to temporarily stop recording.

- Press the start/stop button again to resume recording.
- See "Record Review" (p.37) to check your recording.

8. When recording is finished, press EJECT button.

- Video cassette compartment opens.

9. Unload video cassette and close video cassette compartment.

10. Turn camera off.

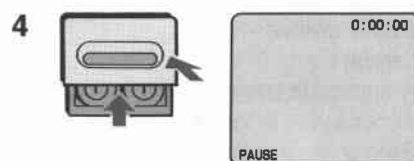
- CAMERA indicator goes off.

Hints:

- Before recording, make sure the date and time have been correctly set. See pp. 24-25 for details.
- Make sure the lens is properly cleaned for maximum picture quality.

Notes:

- Camera automatically turns off if record pause mode lasts more than approximately five minutes. This occurs to protect the video heads. To resume recording turn the camera on and press start/stop button.
- To avoid mistakes, check the viewfinder display during shooting.
- Successive pressing of the start/stop button can cause breakdown.
- Avoid recording near sources of strong electric or magnetic fields, such as TV towers, as this may cause noise in the picture or a camera malfunction.
- When recording in dark places, a bright light in the scene may cause a vertical bar (smear) to appear on the screen.



Explanation:**Smear:**

A luminous bar appears vertically on the screen where excessively bright area in a scene was recorded.

Smear is caused when:

- Spotlights, directly recorded on a stage, for example.
- Burning candles on a cake are recorded directly.
- Objects reflecting light, such as car bodies and traffic signs, are recorded directly.

Auto Wind Screen Function

The camera includes a wind screen function which automatically detects and reduces wind noise. As a result, recorded sound may be slightly different where the wind screen has reduced the wind noise.



Tape Counter 1

During recording, the tape counter in the viewfinder indicates how long you have recorded.

❶ You have recorded for approximately 35 minutes and 40 seconds.

- Tape counter is reset when a video cassette is loaded or when the C. RESET button is pressed.
- Tape counter also operates during search and playback. This indicates how long the tape has been running.
- Tape counter time and actual recording duration may differ. It should only be used as a rough guide.

Recording Reminder 2

When recording starts, camera displays 0 SEC through 10 SEC in viewfinder to indicate the first 10 seconds of recording. This function is designed to help you make sure your scenes are not too short, for easy viewing and editing. Try to record at least the full 10 seconds.

Video Cassette Warning 3

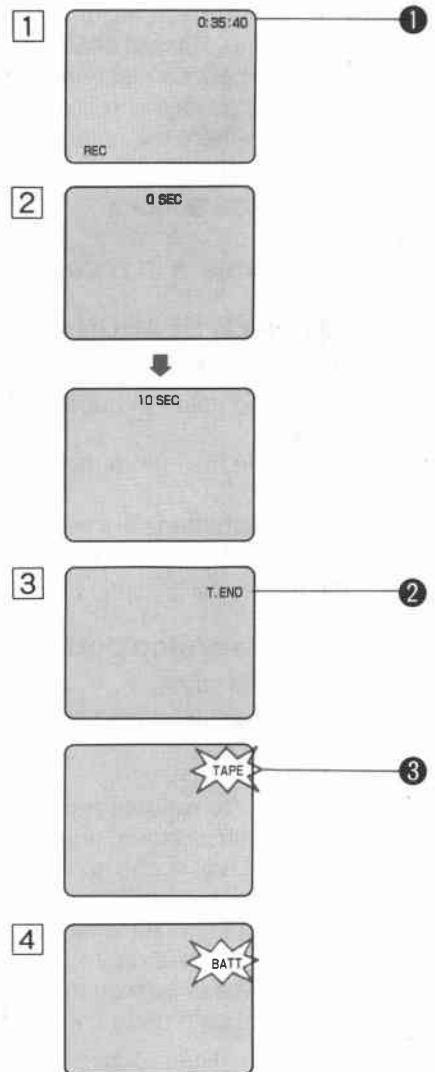
"T. END" appears in the viewfinder when the tape is completely used up and recording stops. ❷

"TAPE" flashes in the viewfinder if the camera is turned on and a video cassette is not loaded or in CAMERA mode if the erasure prevention switch of loaded video cassette is set to save. ❸

Battery Pack Warning 4

"BATT" flashes in the viewfinder when the battery pack charge is nearly exhausted. When this occurs, prepare another power source.

- If the camera is turned on with an exhausted battery pack attached, it may turn off immediately, without a "BATT" warning.



Record Search (CAMERA Mode)

Use the record search function to locate the desired point to resume recording. Record search can also be used to eliminate noise between recorded scenes. Use this function when you make additional recordings on a previously used video cassette—there will be no noise between the previously recorded scene and the newly recorded scene.

① REC SEARCH Buttons

1. **Place camera in record pause mode.**
2. **Press REC SEARCH (+) or (−) buttons to locate recording start position.**
 - Press and hold (+) button to play back recording forward.
 - Press and hold (−) button to play back recording in reverse.
 - When the buttons are released a still picture is displayed briefly and camera returns to record pause mode.
3. **Press start/stop button to resume recording.**
 - Recording starts.
 - Tally lamp flashes rapidly.

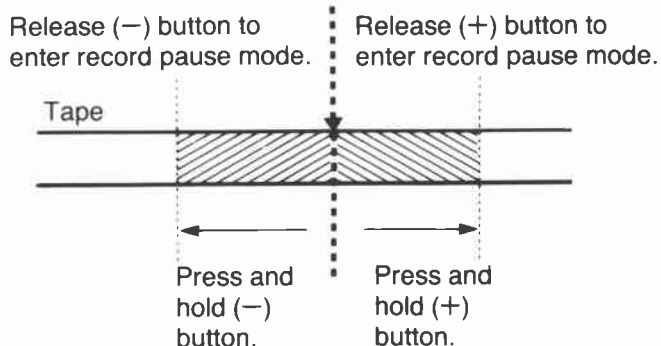
Explanation:

Record Search (to resume recording)

During record pause mode, press REC SEARCH (+) or (−) buttons to play back scene normally, or in reverse, at normal playback speed.

When you reach the point where you want to begin recording, release button. Camera returns to record pause mode. Playback picture can be monitored in viewfinder, to locate precise point to begin recording.

Record pause mode

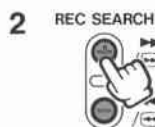
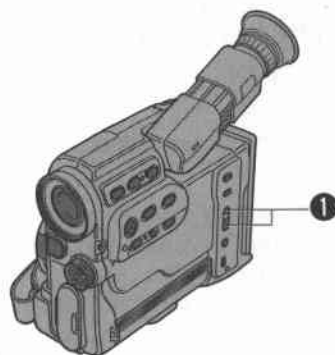


Notes:


- Noise bars and skew (picture distortion) may appear during record search.
- The record search function will not operate unless the camera is in record pause mode.

② Noise bar


③ Skew (distorted picture)



Record Review (CAMERA Mode)

Press the  (record review) button during record pause mode to play back the last segment of the recorded scene (approximately three seconds) in the viewfinder.

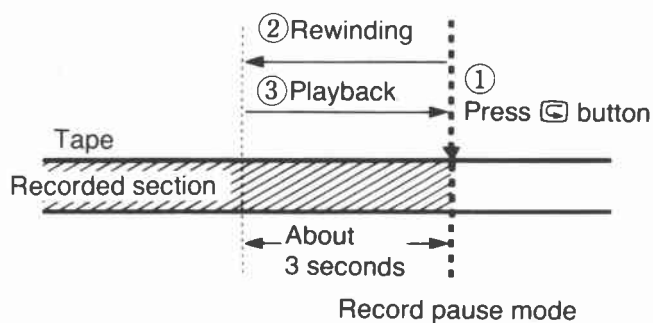
① (Record Review) Button

1. **Place camera in record pause mode.**
2. **Press  (record review) button.**
 - Scene plays back in viewfinder.
 - When record review is completed, camera returns to record pause mode.
3. **Press start/stop button to resume recording.**
 - Recording will continue from the last recorded scene.

Explanation:

Record Review

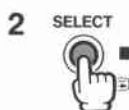
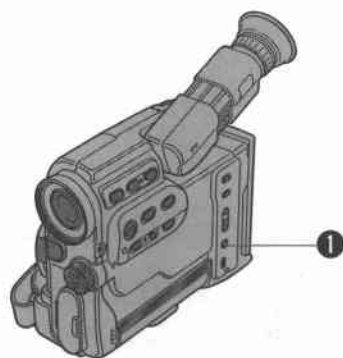
A function used in record pause mode to play back the last three seconds of recording in the order (① to ③) shown below. The camera returns to record pause mode after playback has ended.



Notes:

- Noise or skew (picture distortion) may appear on the screen during record review.
- During record review none of the buttons other than the OPERATE button are operable (pressing the operate button turns the power off).
- The record review function will not operate unless the camera is in record pause mode.

- ② **Noise bar**
- ③ **Skew (distorted picture)**



Playback Connection (PLAY Mode)

To play back a recorded video cassette on a TV, use either the DC-100 DC Coupler and CA-100 Compact Power Adapter (or CB-110 Car Battery Adapter) or the BP-E77K Battery Pack as a power source. For details on how to connect the CA-100 (or CB-110) and DC-100 to the camera, see page 20.

The procedure for connecting the video camera to your TV varies depending on the type of TV. Follow the appropriate connection procedure described on pages 38-43.

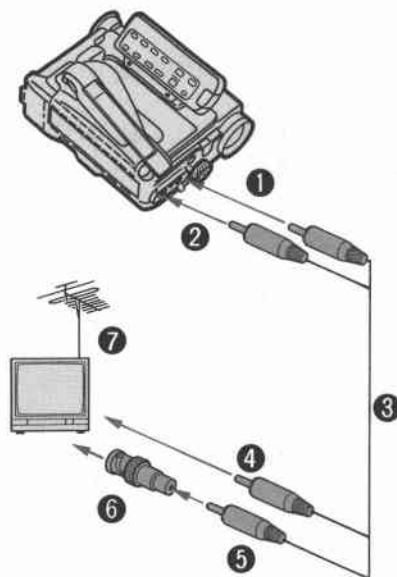
Using TV with Audio/Video Input Terminals 1

1. **Connect audio/video terminals of camera to audio/video input terminals of TV using the optional C-150 AV Cable (audio = white; video = yellow).**

• This procedure can also be used to connect camera to a VTR which has audio/video input terminals.

- ① To Video Terminal (yellow)
- ② To Audio Terminal (black)
- ③ C-150
- ④ To Audio Input
- ⑤ To Video Input
- ⑥ BNC Adapter*
- ⑦ TV: Set TV/VIDEO selector to VIDEO.

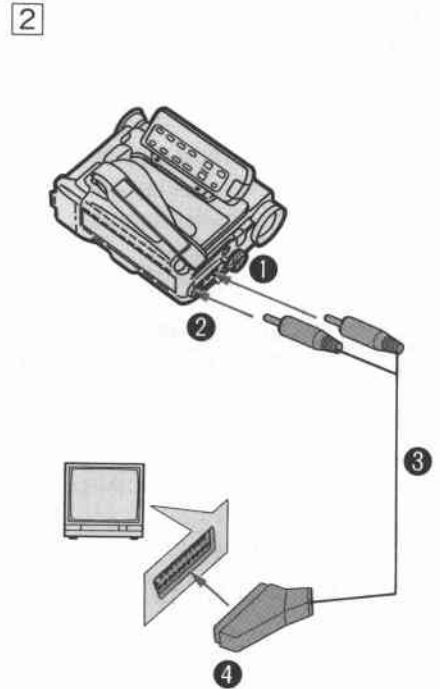
* If TV has a BNC-type video input terminal, attach a commercially available BNC adapter to C-150 AV cable.

1


Using TV with SCART Terminal 2

1. Connect yellow plug of PC-150 SCART Cable to camera's video output terminal, and connect black plug to camera's audio output terminal.
2. Connect other end of SCART Cable to SCART terminal of TV.

- ① To Video Terminal (yellow)
- ② To Audio Terminal (black)
- ③ PC-150
- ④ To SCART Terminal



Using TV without Audio/Video Input Terminals

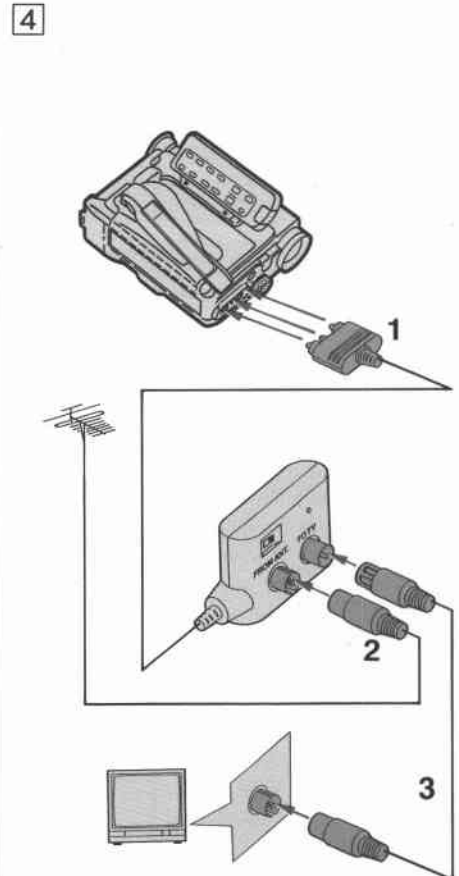
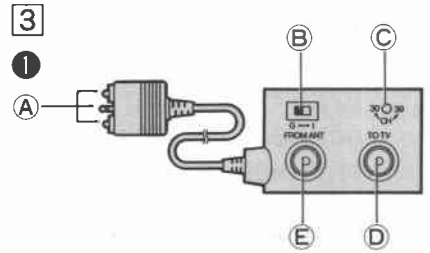
The RU-100 RF Unit is required in order to view recorded video cassettes on a TV which does not have audio/video input terminals. There are two models of RU-100, one for Europe and one for Australia. The connection and setting procedures for the European and Australian models differ.

European Model 3

- 1 RU-100
 - A Connection Plug
 - B G/I Selector
 - C Video Channel Selector
 - D TO TV Terminal
 - E FROM ANT. Terminal
- 2 Coaxial Cable with DIN-Connectors

Connection Procedure 4

1. Connect RF unit to camera.
2. Connect aerial cable to FROM ANT. terminal of RF unit.
3. Note the difference between 'male' and 'female' type DIN-connectors on coaxial cable. Connect female connector to TO TV terminal of RF unit. Connect male connector to aerial input of TV.



Selecting Video Channel 5

Video channel means the channel in your area which is not used by a broadcasting station (channels 30-39). If your TV does not have audio/video input terminals, your TV and the video channel selector of the RU-100 RF Unit must be set to the video channel in order to view playback.

1. Turn TV on.
2. Turn camera on and start playback (see p. 44).
3. Set RF unit's G/I selector using a flat-edge screwdriver.

G: Continental Europe

I: England, South Africa, Hong Kong

- If G/I selector is set improperly, picture will appear, but no sound will be heard.

4. Set TV and video channel selector to video channel. For example, if video channel in your area is channel 33, tune TV to channel 33, then use a flat-edge screwdriver to set video channel selector of RU-100 to CH 33, adjust by turning until picture is clear.

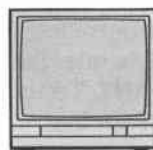
- The RU-100 RF Unit is shipped from the factory with the video channel selector set to channel 32.

To View a Regular TV Programme

The RU-100 RF Unit automatically selects the video camcorder signal whenever the video camcorder is connected to the TV through the RF unit and the video camcorder is turned on. To view a regular TV programme, disconnect the video camcorder from the RF unit, or turn the video camcorder off.

5

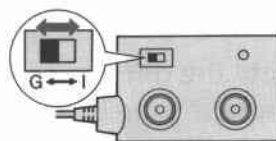
1



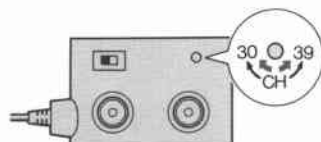
2



3



4

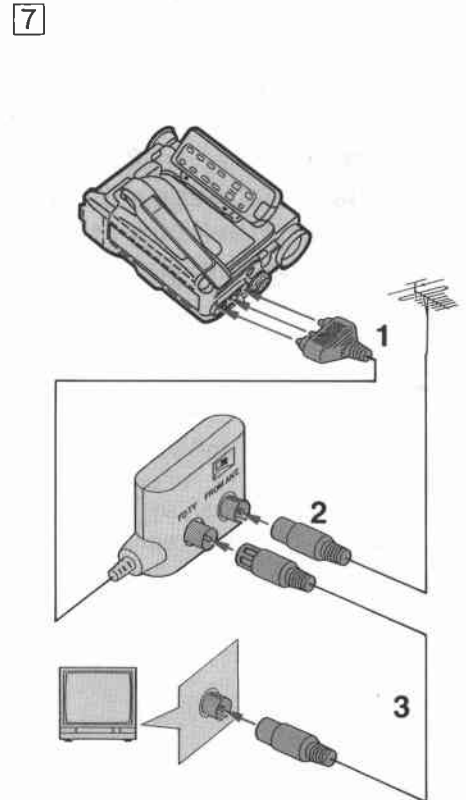
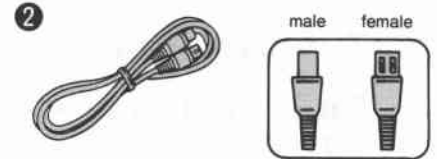
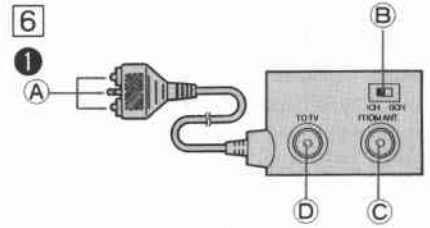


Australian Model**6****1 RU-100**

- A** Connection Plug
- B** Video Channel Selector
- C** FROM ANT. Terminal
- D** TO TV Terminal

2 Coaxial Cable with DIN-Connectors**Connection Procedure** **7**

1. Connect RF unit to camera.
2. Connect aerial cable to FROM ANT. terminal of RF unit.
3. Note the difference between 'male' and 'female' type DIN-connectors on coaxial cable. Connect female connector to TO TV terminal of RF unit. Connect male connector to aerial input of TV.



Selecting Video Channel 8

Video channel means the channel in your area which is not used by a broadcasting station (Channel 0 or 1). If your TV does not have audio/video input terminals, your TV set and the video channel selector of the RU-100 RF Unit must be set to the video channel in order to view playback.

1. Turn TV on.
2. Turn camera on and start playback.
3. Set TV and video channel selector to video channel. For example, if video channel in your area is channel 0, set video channel selector of RU-100 to CH 0 (using a flat-edge screwdriver), then tune TV to channel 0.

To View a Regular TV Programme

The RU-100 RF Unit automatically selects the video camcorder signal whenever the video camcorder is connected to the TV through the RF unit and the video camcorder is turned on. To view a regular TV programme, disconnect the video camcorder from the RF unit, or turn the video camcorder off.

Positioning the video camera 9

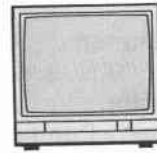
For playback on a connected TV, position video camera with the hand grip and wireless controller on top and use the operating buttons on the wireless controller.

1. Place the camera so that wireless controller and hand grip are on top.
2. Lift up wireless controller.
 - When changing video cassettes during playback, open video cassette compartment cover.
 - To operate the camera, the remote sensor must receive the infrared signals emitted when the wireless controller operating buttons are pressed.

To facilitate reception, point the attached wireless controller's transmitter at a wall, or place a stack of magazines near the wireless controller.

8

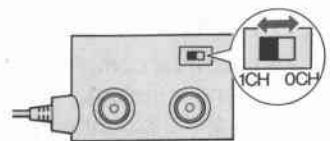
1



2



3

9

1



2

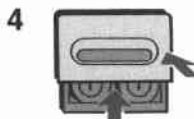
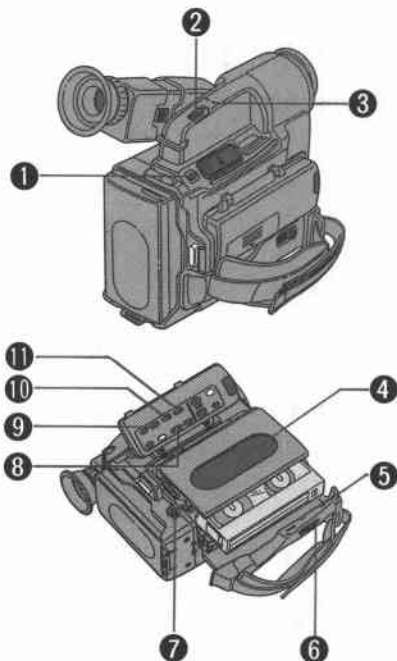


Playback Procedure (PLAY Mode)

Before playback, make sure that all connection procedures are completed (pp. 38-43).

- ① OPERATE Button
- ② MODE SELECT Button
- ③ PLAY Indicator
- ④ Video Cassette Compartment
- ⑤ Video Cassette Compartment Cover
- ⑥ UNLOCK Switch
- ⑦ EJECT Button
- ⑧ ■ (STOP) Button
- ⑨ ◀◀ (REW) Button
- ⑩ ▶▶ (PLAY) Button
- ⑪ ▶▶ (FF) Button

1. **Turn camera on.**
 - CAMERA indicator (red) lights up.
2. **Press MODE SELECT button to select PLAY mode.**
 - You must complete this step to begin playback.
 - Camera indicator goes off, PLAY indicator (green) lights up and the connected TV monitor appears blue and time and date are automatically displayed.
3. **Press EJECT button.**
 - Video cassette compartment opens.
4. **Load video cassette in camera and close video cassette compartment.**
5. **Locate playback starting point.**
 - Use ▶▶ (FF) or ◀◀ (REW) buttons to locate starting point or use fast forward/rewind playback or high-speed search (see p. 46).



6. Press ► (PLAY) button to start playback.

- You can monitor playback in viewfinder.

7. Press ■ (STOP) button to end playback.

Explanation:

High-Frequency Feedback

- High-frequency feedback is a high-pitched squeal that occurs when the sound from the TV speaker is picked up by camera microphone.
- During CAMERA mode, high-frequency feedback may occur if camera microphone is too close to TV speaker. To prevent feedback, turn down TV volume when camera is connected, and keep microphone pointed away from TV speakers.
- Feedback will not occur when PLAY mode is selected.



Special Playback Methods (PLAY Mode)

In addition to normal playback, the camera also has fast forward, rewind and still playback. Playback is controlled by pressing the buttons on the camera or by using the wireless controller attached to or detached from the camera.

- ① ◀◀ (REW) Button
- ② ▶▶ (PLAY) Button
- ③ ▶▶▶ (FF) Button
- ④ ▶◀ (STILL) Button
- ⑤ ▶▶▶ (PLAY) Button
- ⑥ ▶▶▶ (FF) Button
- ⑦ ◀◀ (REW) Button

Fast Forward Playback ①

Press and hold ▶▶ (FF) button during normal playback to view scenes at about 7 times (SP mode) normal speed.

- Release button to resume normal playback.

Rewind Playback ②

Press and hold ◀◀ (REW) button during playback to view scenes in reverse at 5 times (SP mode) normal speed.

- Release button to resume normal playback.

Still Playback ③

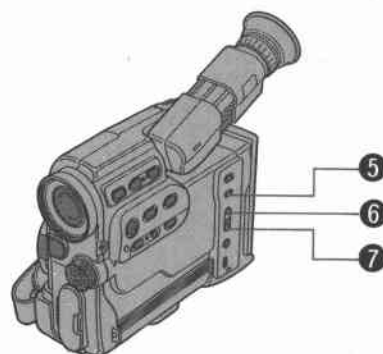
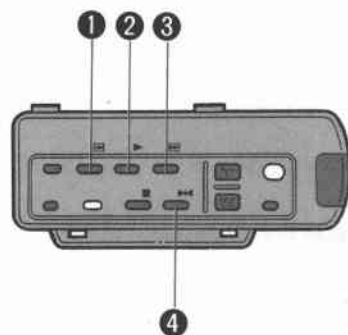
Press ▶◀ (STILL) button on wireless controller during playback to pause playback. Press STILL button once again, or press PLAY button, to resume normal playback.

- Camera's start/stop button can also be used to pause playback.

High-Speed Search ④

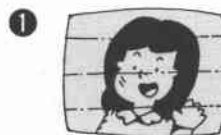
The high-speed search function plays back recorded scenes at about 11 times (SP mode) the normal speed.

- Press ▶▶▶ (FF) button once, in fast forward mode for high-speed search in the forward direction.
Press ▶▶▶ (FF) button again to return to fast forward mode.
- Press ◀◀ (REW) button once, in rewind mode for high-speed search in reverse.
Press ◀◀ (REW) button again to return to rewind mode.



Notes:

- Several noise bars appear during special playback.
 - ① **During fast forward and rewind playback modes**
 - ② **During still playback**
- Audio portion of tape cannot be heard during special playback.
- Picture flickers during still playback.
- The camera automatically goes into stop mode after about five minutes of continuous still playback.
- When fast action scenes are shown in still playback, the picture may blur.
- Certain TVs may show the special playback picture in black and white, or picture may roll or divide.
- Notes about special playback of tapes recorded in SP:
 - (1) The still playback picture will contain much more noise than for a tape recorded in LP.
 - (2) During fast forward or rewind playback, noise bar will be much wider than for a tape recorded in LP.



Tape Return (PLAY Mode)

The tape return function allows you to quickly return to a desired scene.

- The camera does not have a TAPE RETURN button. Use the WL-1 Wireless Controller to operate tape return.

- ① PLAY Button
- ② C. RESET Button
- ③ TAPE RETURN Button
- ④ STOP Button

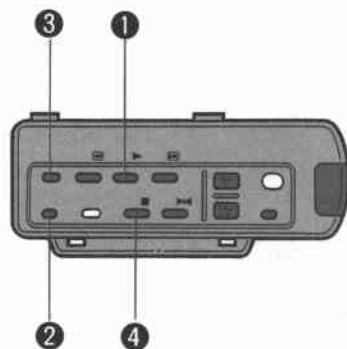
1. During playback, press the C. RESET button if you locate a scene you wish to watch again later.
 - The tape counter is reset to "0:00:00".
2. Press ■ (STOP) button when playback finishes.
3. Press TAPE RETURN button.
 - The tape rewinds and stops automatically when tape counter nears "0:00:00".
4. Press ► (PLAY) button.
 - Playback starts at the point where you pressed the C. RESET button.

Remark:

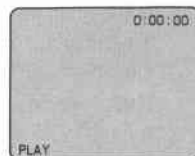
Each time a video cassette is loaded, tape counter is automatically reset to "0:00:00". Therefore the tape return function is a convenient way to locate the recording start point.

Notes:

- Press STOP button to cancel tape return.
- Tape counter reading is approximate. Use it only as a guide.
- When tape counter reading is near "0:00:00", TAPE RETURN button does not operate.
- You cannot use the tape return function in CAMERA mode.



1 C. RESET



2 STOP ■



3 TAPE RETURN



4 PLAY ►





Advanced Operations

Focusing (CAMERA Mode)

The camera has two focus modes: autofocus and power focus. Each time the AF ON/OFF button is pressed, the selected mode changes as shown below.

Camera ON → Autofocus → Power Focus

- ① AF ON/OFF Button
- ② POWER FOCUS Buttons (F/N)
- ③ Autofocus Zone

When the camera is turned on, autofocus is automatically selected.

Autofocus ①

The autofocus zone is in the centre of viewfinder. Subjects within this zone will be in sharp focus.

The camera is equipped with an internal focus lens which provides an autofocus range from infinity to very close.

Subjects can be approached to a distance of

- 1 cm with the maximum wide-angle end.
- 70 cm with the maximum telephoto end for recording.

Changing the focus set by autofocus ②

In autofocus mode the camera focuses on the subject with the highest contrast. If several high contrast subjects are within the autofocus area, only one of them may be in focus. To focus on other subjects, press the POWER FOCUS buttons and adjust the focus. This may also be done in cases where the subject is a continuous line and you wish to focus on a particular spot. A sharper focus can be obtained.

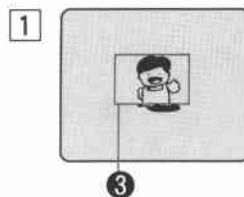
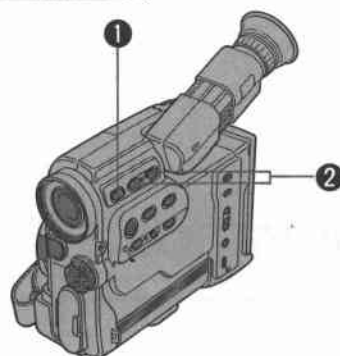
After the autofocus has been set to focus automatically, press the F or N POWER FOCUS buttons to bring a desired subject into sharp focus.

- Press F to focus on far subjects.
- Press N to focus on near subjects.

During this time, autofocus does not operate temporarily but resumes operation when the POWER FOCUS buttons are released.

Notes:

- Dirt or dust on the surface of the lens may affect autofocus performance. Clean the lens periodically to maintain optimum autofocus performance.
- Sharp focusing may be difficult if the subject in the autofocus zone is small. The subject should fill the autofocus zone where possible.



Subjects Not Suitable for Autofocus 3

Autofocus may not work well in the following instances, and power focus will probably give you better results:

- ① Shiny subjects or subjects that reflect light.
- ② Horizontally striped subjects
- ③ More than one subject in viewfinder/different distances
- ④ Rapidly moving subjects
- ⑤ Slanted subjects
- ⑥ Subjects with little or no contrast (a white wall, for example)
- ⑦ Subjects behind glass (windows with water or dirt on them)
- ⑧ Dark subjects
- ⑨ Night scenes

3

①



②



③



④



⑤



⑥



⑦



⑧



⑨



Power Focus 4

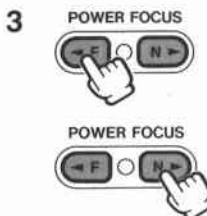
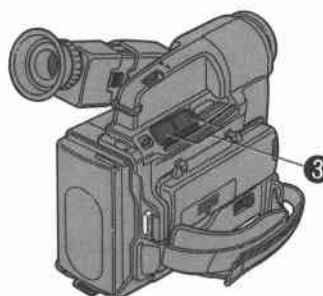
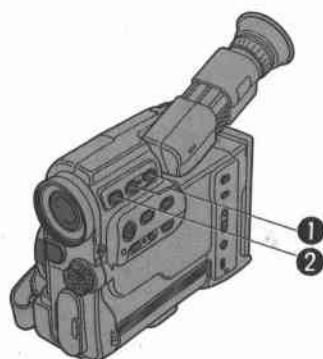
Power focus is used for recording subjects not suitable for autofocus.

- ① POWER FOCUS Buttons
- ② AF ON/OFF Button
- ③ Power Zoom Buttons

1. **Press power zoom button to obtain the desired picture angle.**
 - Using the zoom after having used the power focus may cause the picture to become out of focus. Therefore, zoom first, then focus.
 - For zooming, see page 53.
2. **Press AF ON/OFF button.**
 - The autofocus zone disappears from viewfinder.
 - Subjects which were in focus remain locked in focus.
3. **Use POWER FOCUS buttons to focus on subject to be recorded.**
 - Press F button to focus on far subjects.
 - Press N button to focus on near subjects.
 - Press POWER FOCUS button for short periods (less than one second) to obtain fine focus. The focus will change slowly.
To focus rapidly, press and hold POWER FOCUS button (for at least one second). The focus change speed will increase.
4. **Press AF ON/OFF button to cancel power focusing.**
 - The autofocus zone reappears in viewfinder and autofocus resumes.

Notes:

- Turning the power off or changing to PLAY mode will cause the camera to revert automatically to autofocus.
- Power focus should be used when using the optional FS-37 Filter Set.
- When using the power focus, always check the image in the viewfinder.

4


Zooming (CAMERA Mode)

The camera is equipped with an 8× zoom lens. The zoom function enables the picture angle to be changed freely from wide angle to telephoto.

Power Zoom 1

① Power Zoom Buttons

Power zoom buttons are on top of camera.

- Press W to gradually zoom out to wide angle.
- Press T to gradually zoom in to telephoto.

② Zoom in

③ Zoom out

Wireless Zoom 2

④ ZOOM Buttons

For remote control of the zoom function, use the ZOOM buttons on the wireless controller.

- Press W to gradually zoom out to wide angle.
- Press T to gradually zoom in to telephoto.

Hints:

- It is recommended that the camera be mounted on a tripod for telephoto recording since any hand movements are magnified.
- Use a TV monitor during wireless zooming to view shots.
- Overuse of zooming may make recordings seem too busy. Selective use of zooming is more effective.

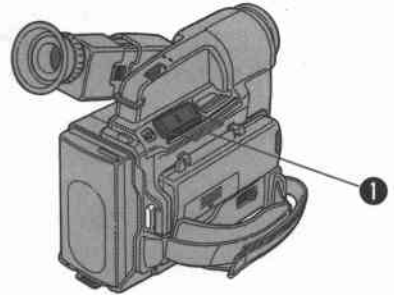
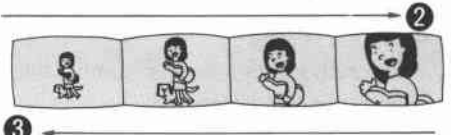
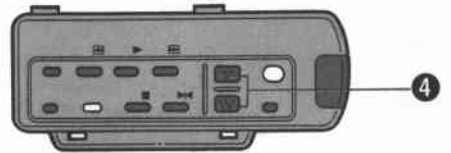
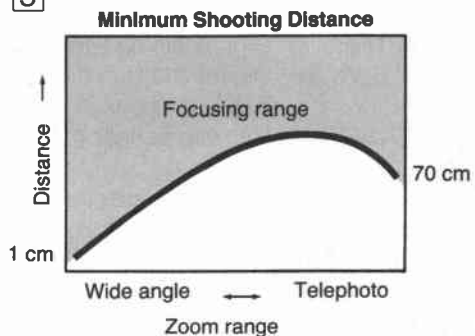
Zooming and minimum shooting distance 3

The internal-focus lens causes the minimum shooting distance (how close the camera can be brought to a subject), to change with the zoom position.

- With the widest angle, shooting is possible at about 1 cm.
- With the greatest telephoto zoom the minimum distance is about 70 cm.

Notes:

- If the zoom is used with the power focus (see page 52), the set focus may be lost.
- A subject closer than 90 cm may become out of focus when the zoom is used.

1

2

3
2

3


Menu System

This menu system provides you with a wide variety of functions.

The buttons on the surface of the camera handle only frequently used basic functions. Advanced functions are selected from menus which appear in the viewfinder and are controlled by the MENU button.

When pressing the MENU button, three menus are displayed as follows.

→ No display → MENU 1 → MENU 2 → MENU 3 →

① MENU Button

② +/- Buttons

The functions below can be controlled from the various menus.

[MENU 1] ①

(Display)	(Function)
E. ERASE	Edit-erase (page 56)
SHUTTER	High-speed shutter (page 58)
WB LOCK	White balance lock (page 61)
GAIN UP	Gain-up (page 63)

[MENU 2] ②

(Display)	(Function)
FADE T	Fade trigger (page 65)
SELF	Self-timer (page 67)
B.T.S.	Blank tape search (page 68)
SP/LP	Tape speed (page 69)

[MENU 3] ③

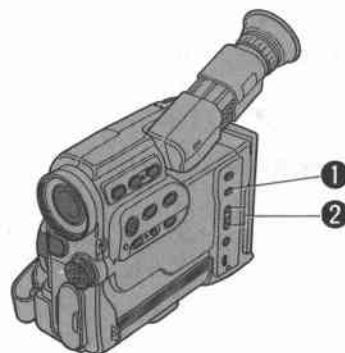
(Display)	(Function)
DT TINT	Digital title see-through display (page 73)
DT S/W	Digital title Scroll/Wipe display (page 74)
TALLY	Tally lamp on/off (page 79)
SENSOR	Remote sensor on/off (page 80)

Use the MENU button to display the page containing the desired function. Then use the +/- buttons to align the arrow with the function.

- Press (+) button to lower the arrow.
- Press (-) button to raise the arrow.

Pressing the SELECT button allows a function setting to be changed or a function to be operated.

For further details, refer to the explanations of the various functions.



1

MENU 1
→ E. ERASE
SHUTTER
WB LOCK
GAIN UP

2

MENU 2
→ FADE T
SELF
B. T. S.
SP / LP

3

MENU 3
→ DT TINT
DT S/W
TALLY
SENSOR

Automatic systems during menu display

When the menu button is pressed and a menu is displayed in the viewfinder, the automatic systems cease operation. When the menu is no longer displayed, the automatic systems resume operation.

Initializing the menu displays

The following procedure allows all menu functions to be reset to their original settings.

Date, time and stored digital titles, which are not items displayed on the menus, will not be affected by the following operation.

1. **Press MENU button once.**
 - MENU 1 is displayed in viewfinder.
2. **Press +/- buttons together for more than half a second.**
 - Each menu function will be reset to its original setting.

Refer to pages 56-80 to set the necessary menu functions.

Saving the camera's selected settings

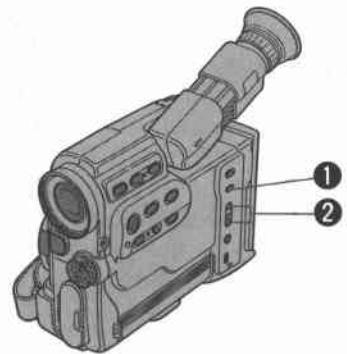
The following settings selected via the menu system are saved even when the power is turned off thanks to the built-in lithium battery:

- | | |
|----------------------------|--------------------------|
| •Date and time | •Title colour setting |
| •Tape counter | •Title reversing setting |
| •Title scroll/wipe setting | •Tally off mode |
| •Title see-through setting | •Sensor off mode |
| •Title shadow setting | •Fade trigger mode |

The following settings are cancelled if the camera is turned off or if the MODE SELECT button is pressed to switch the camera from CAMERA mode to PLAY mode.

Reset these modes before starting to record:

- Power focus mode
- High-speed shutter
- Gain-up
- White balance lock
- Title display
- Self-timer
- Fade trigger standby



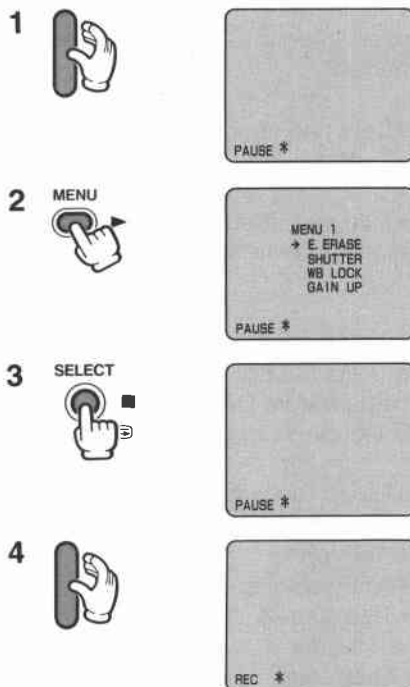
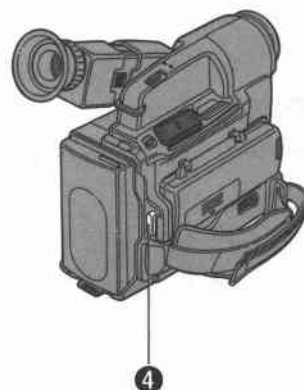
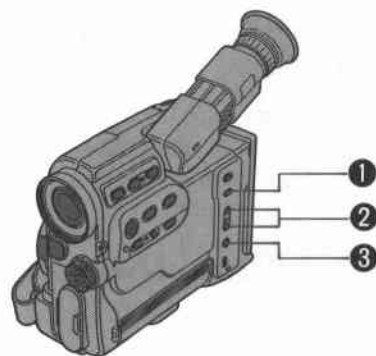
Edit-erase (CAMERA Mode) MENU 1

When an undesirable object or sound is recorded, such as someone walking across the picture or the sound of a car horn, the edit-erase function can be used to quickly return to the precise point where recording began, and record the scene again. This function only operates during the first 40 seconds or so of recording.

For about 40 seconds after starting to shoot a scene, an * (asterisk) mark appears in the viewfinder next to the operating display. The edit-erase function can be used while this * mark is displayed.

- ① MENU Button
- ② +/- Buttons
- ③ SELECT Button
- ④ Start/Stop Button

1. **Check that * (asterisk) is displayed in viewfinder, then press start/stop button to enter record pause mode.**
 - Asterisk appears also in record pause mode.
2. **Press MENU button once.**
 - MENU 1 is displayed in viewfinder.
 - Make sure arrow is aligned with E. ERASE.
3. **Press SELECT button.**
 - Menu disappears from viewfinder and tape is rewound at triple speed.
 - Camera is now in record pause mode at the start of scene you want to record over.
 - The * is no longer displayed.
4. **Press start/stop button to resume recording.**



Notes:

- After 40 seconds of recording, the * (asterisk) disappears from the viewfinder and the edit-erase function no longer operates.
- The edit-erase function cannot be used if the power is operated or record search is used less than 40 seconds after recording began (the * [asterisk] disappears from the viewfinder).
- The edit-erase function can only be used with CAMERA mode in record pause. It cannot be used in PLAY mode.

High-Speed Shutter (CAMERA Mode) MENU 1

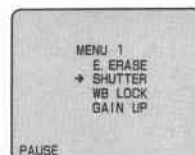
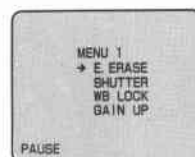
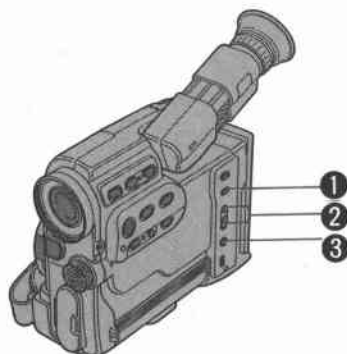
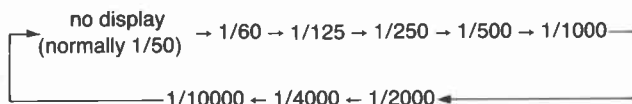
The high-speed shutter is useful for recording fast moving subjects clearly and for shooting sports. (When played back on a VTR with fine still and fine slow functions, little noise or blur will occur.)

The camera has 8 high-speed shutter settings: 1/60th, 1/125th, 1/250th, 1/500th, 1/1000th, 1/2000th, 1/4000th and 1/10000th of a second. Select the correct shutter speed to suit the speed and brightness of the subject.

Normal shutter speed is 1/50th of a second.

- ① MENU Button
- ② +/− Buttons
- ③ SELECT Button

1. Point camera at subject and compose scene in viewfinder.
2. Press MENU button once.
•MENU 1 is displayed in viewfinder.
3. Use +/− buttons to align arrow with SHUTTER.
4. Press SELECT button to choose shutter speed.
•Each time SELECT button is pressed, shutter speed display in viewfinder changes as follows:

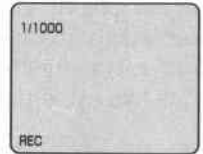
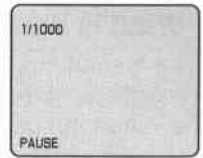
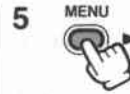


5. Press MENU button three times.

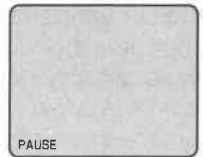
- Menu display disappears from viewfinder.

6. Begin recording.**7. When recording is complete, follow steps 2-5 to return to normal shutter speed.****Notes:**

- High shutter speeds require more light. For best results use outdoors in bright places.
- Moving subjects shot with the high-speed shutter will jitter during still playback.
- Scenes shot with the high-speed shutter will appear somewhat jerky during normal playback.
- Scenes shot with the high-speed shutter will shudder during still playback.
- Camera will revert automatically to the normal shutter speed when the power is switched off or PLAY mode is selected.



7



White Balance (CAMERA Mode)

MENU 1

What is White Balance?

The human eye can perceive a white object as white, regardless of the lighting conditions. With video cameras, however, the colour temperature of the light source may cause the colour of the recorded picture to be different from the actual colour. White balance is the adjustment made, when recording, to make white subjects look white and to obtain natural colours under a variety of light sources. The camera has two systems for white balance adjustment: auto and lock.

Explanation:

Colour temperature, measured in degrees Kelvin (°K), indicates the relative redness or blueness of a light source and is not directly related to brightness. A light source with a red cast has a low colour temperature, whereas a bluish light source has a higher colour temperature.

Auto White Balance

The camera's auto white balance system divides the screen into 25 sections and individually evaluates them to achieve the optimum white balance. A natural colour balance is automatically set for sunlight and indoor lighting conditions.

Subjects not suitable for Auto White Balance

Auto white balance may not operate well in the following circumstances and white balance lock will probably give better results:

- ① Subjects with one dominant colour, such as sky, sea or forest.
- ② Close-ups
- ③ Rapidly changing lighting conditions.
- ④ When recording under certain types of fluorescent or mercury vapor lights.

Colour Temperature Chart

Adjustable White Balance Range	Bluish Cast	10,000°K 9,000°K 8,000°K 7,000°K 6,000°K 5,000°K	<ul style="list-style-type: none"> • Blue sky • Scene on TV screen • Cloudy sky • Sunlight
	White	4,000°K	<ul style="list-style-type: none"> • White-coloured Fluorescent light • 2 hours after sunrise or before sunset • 1 hour after sunrise or before sunset • Electric halogen light • 30 minutes after sunrise or before sunset
	Reddish Cast	3,000°K 2,000°K 1,500°K	<ul style="list-style-type: none"> • White-coloured electric light bulb • Sunrise, sunset • Candlelight

①



②



③



④



White Balance Lock

Use the white balance lock when shooting subjects not suitable for auto white balance and in cases where a precise colour balance cannot be achieved with auto white balance.

- ① MENU Button
- ② +/– Buttons
- ③ SELECT Button

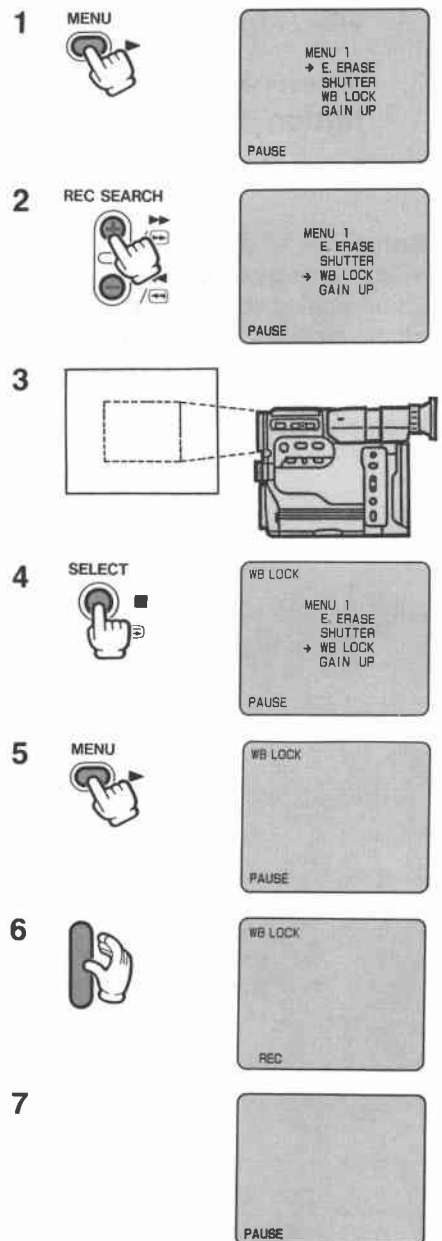
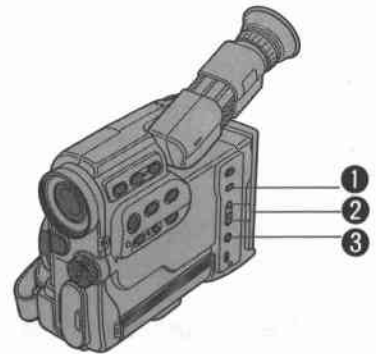
1. **Press MENU button once.**
 - MENU 1 is displayed in viewfinder.
2. **Use +/– buttons to align arrow with WB LOCK.**
3. **Point camera lens at a white object (paper or cloth) so it completely fills viewfinder.**
 - Set zoom to telephoto end.
 - Focusing is not necessary.
4. **Press SELECT button.**
 - “WB LOCK” flashes in viewfinder, then remains lit.
5. **Press MENU button 3 times.**
 - Menu display disappears from viewfinder.
6. **Begin recording.**
7. **To cancel white balance lock, repeat steps 1, 2 and 4 and “WB LOCK” disappears from viewfinder.**
 - Auto white balance is reset.

Hint:

- Use the white balance lock to obtain more natural colouring even under normal conditions.

Notes:

- Switching off the power or selecting PLAY mode will cancel the white balance lock.
- Use the white balance lock in well lit places. If lighting conditions change, reset the white balance lock.



About Backlighting

Backlighting, caused for example by the sun or an open window behind the subject, will make the subject appear dark and lacking in detail.

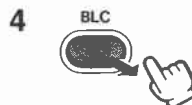
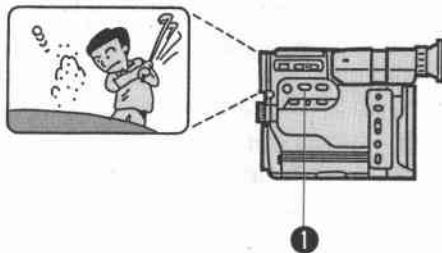
When the subject appears dark in the viewfinder use the backlight compensation function.

① BLC Button

1. **Use zoom to set desired picture angle.**
 - See page 53 for zooming.
2. **Press start/stop button while holding down BLC button.**
 - Recording begins.
3. **When recording is complete, press start/stop button.**
4. **Release BLC button.**

Notes:

- Backlighting compensation operates only while the backlighting compensation button is being held down.
- If the picture angle is altered during backlighting compensation, the exposure may become unsuitable. The image in the viewfinder should always be checked and compensation used only when the subject appears dark.



Gain-up (CAMERA Mode) MENU 1

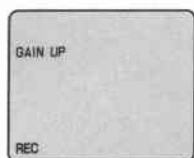
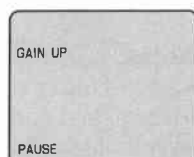
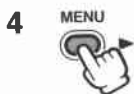
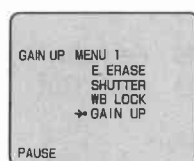
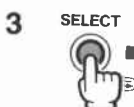
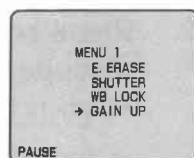
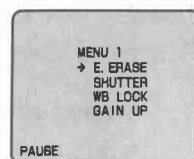
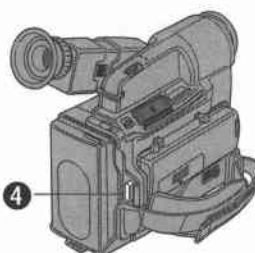
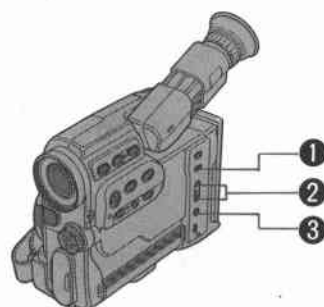
The gain-up function increases the camera's sensitivity, allowing you to record in dimly lit locations without the use of video lights.

- ① **MENU Button**
- ② **+/- Buttons**
- ③ **SELECT Button**
- ④ **Start/Stop Button**

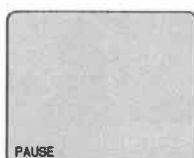
1. **Press MENU button once.**
•MENU 1 is displayed in viewfinder.
2. **Use +/- buttons to align the arrow with GAIN UP.**
3. **Press SELECT button.**
•Gain-up function begins to operate.
•“GAIN UP” is displayed in viewfinder.
4. **Press MENU button three times.**
•Menu disappears from viewfinder.
5. **Begin recording.**
6. **To cancel gain-up function, repeat steps 1-3 and “GAIN UP” will disappear from viewfinder.**

Notes:

- Picture quality slightly decreases when the gain-up function is used. Gain-up should be cancelled where lighting is adequate.
- For recording in extremely dark locations, the gain-up function will not produce bright pictures. The use of the optional VL-20 Battery Video Light (see page 90) is recommended for such occasions.
- Switching off the power or selecting PLAY mode will cancel the gain-up function.



6



Fade (CAMERA Mode)

The fade function allows you to make scenes gradually appear or disappear in smooth transition.

① FADE Button

Fade In ①

Scene gradually appears from a blank white screen.

1. **Place camera in record pause mode.**
2. **Press and hold FADE button which makes scene disappear from viewfinder.**
3. **Press start/stop button to start recording.**
 - Recording reminder appears in viewfinder.
4. **Release FADE button.**
 - Scene gradually fades in.

Fade Out ②

Scene gradually disappears, fading to a blank white screen.

1. **Press and hold FADE button during recording.**
 - Scene gradually fades out.
2. **Press start/stop button when scene has disappeared completely.**
 - Camera goes into record pause mode.
3. **Release FADE button.**

② Fade In

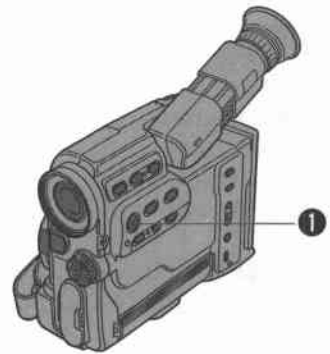
③ Fade Out

Hint:

- This function can be used at any time during recording.

Notes:

- Sound fades along with the image.
- Digital title and date/time displays do not fade.
- When fade trigger function is selected, the FADE button has another function.



①

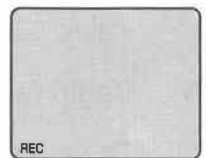
1



2



3



4



②

1



2



3



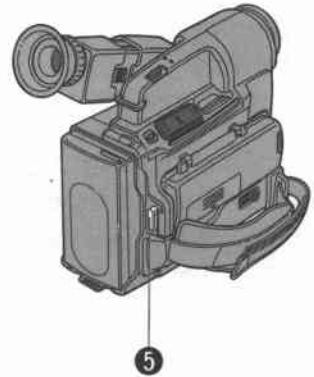
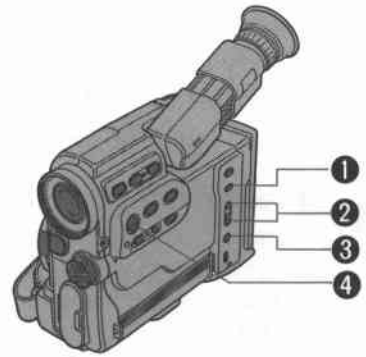
Fade Trigger (CAMERA Mode) MENU 2

The fade trigger lets you begin and end recordings with smooth fades.

- ① MENU Button
- ② +/– Buttons
- ③ SELECT Button
- ④ FADE Button
- ⑤ Start/Stop Button

Selecting Fade Trigger Mode 1

1. **Press MENU button twice.**
 - MENU 2 is displayed in viewfinder.
 - Make sure the arrow is aligned with FADE T.
2. **Press SELECT button.**
 - “FADE T” lights up in viewfinder.
3. **Press MENU button twice.**
 - Menu disappears from viewfinder.

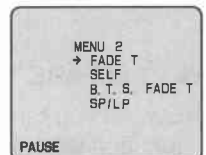

1

1



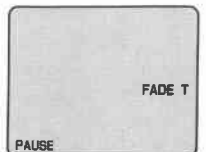
2

SELECT



3

MENU



To Start Recording with Fade In [2]

1. Verify that "FADE T" is displayed in viewfinder and press FADE button.

- The "T" of "FADE T" flashes.

2. Press start/stop button.

- The "T" of "FADE T" stops flashing and remains lit.
- The image in viewfinder disappears immediately.
Recording begins about 0.2 seconds later and scene fades in.

To End Recording with Fade Out [3]

1. During recording, verify that "FADE T" is displayed in viewfinder and press FADE button.

- The "T" of "FADE T" flashes.

2. Press start/stop button to place camera in record pause mode.

- The image in viewfinder fades out. Camera goes into record pause mode about 5 seconds later.
- The "T" of "FADE T" stops flashing and remains lit.

To cancel fade trigger mode, repeat steps 1-2 of "Selecting Fade Trigger Mode".

- "FADE T" disappears from viewfinder.

Notes:

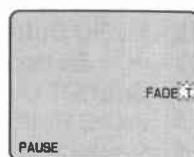
- Once used, fade trigger standby is cancelled. Check the viewfinder display when using the fade trigger.

- ① FADE T is displayed When fade trigger mode is selected or during fade trigger operation.

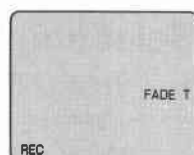
- ② T of FADE T flashes During standby.

- Even if you turn the camera off or change to PLAY mode, this function will not be cancelled.

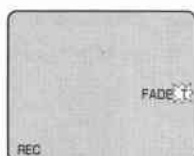
[2]



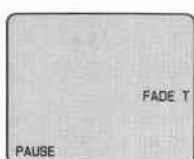
2



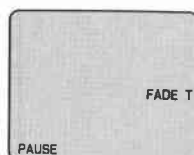
[3]



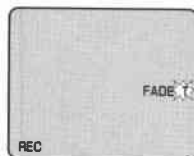
2



①



②



Self-Timer Recording (CAMERA Mode) MENU 2

Set the self-timer and camera will automatically start recording after a 10-second standby period, letting you get in on the action. The camera can be set to record for 30 seconds or until you turn it off.

- ① **MENU Button**
- ② **+/- Buttons**
- ③ **SELECT Button**
- ④ **Start/Stop Button**

1. **Place camera in record pause mode.**
2. **Press MENU button twice.**
 - MENU 2 is displayed in viewfinder.
3. **Use +/- buttons to align the arrow with SELF.**
4. **Press SELECT button to select self-timer mode.**
 - Each time SELECT button is pressed, timer mode display in viewfinder changes as follows:

→no display → SELF → SELF 30→

SELF: After 10 seconds standby, recording begins and continues.

SELF 30: After 10 seconds standby, recording begins and then pauses 30 seconds later.

5. **Press MENU button twice.**
 - Menu disappears from viewfinder.
6. **Press start/stop button.**
 - Countdown begins from 10 to 1 at about one-second intervals, then recording begins.

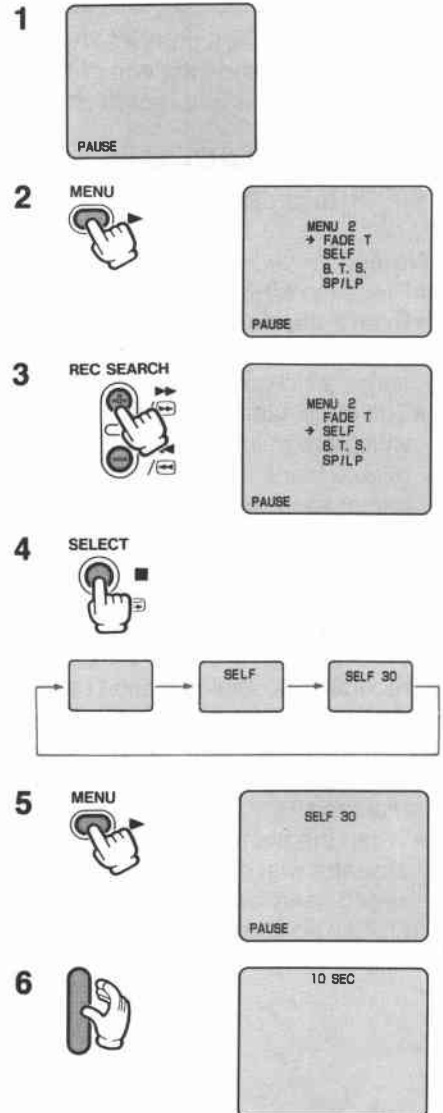
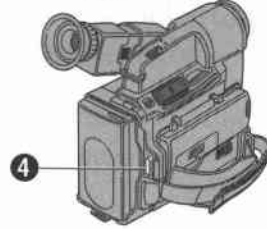
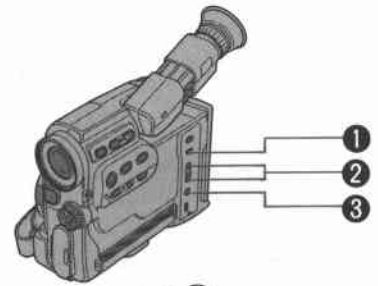
SELF: Timer is displayed.

SELF 30: Countdown begins from 30 to 1.

- During recording standby, tally lamp flashes slowly and begins to flash rapidly when recording begins.
- In the case of SELF, press start/stop button to stop recording.

Hints:

- Self-timer mode can be cancelled before recording begins by pressing start/stop button.
- The self-timer will cancel automatically after it has operated once.



Blank Tape Search (B.T.S.) (CAMERA Mode) MENU 2

The blank tape search function allows you to locate the end of the recorded section of a tape. This function is useful when you want to continue recording on a partially recorded tape.

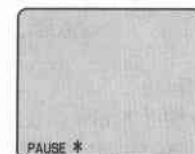
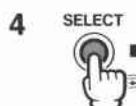
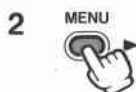
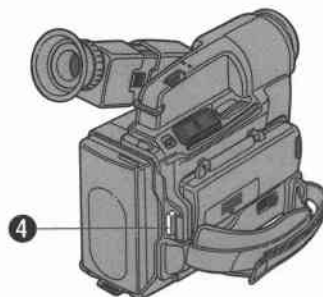
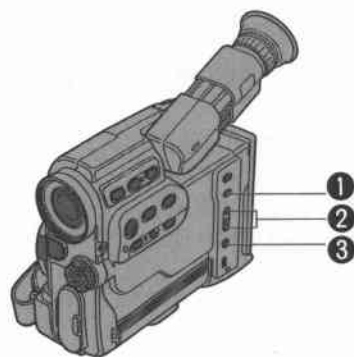
- ① **MENU Button**
- ② **+/- Buttons**
- ③ **SELECT Button**
- ④ **Start/Stop Button**

Blank Tape Search Procedure

1. **Load partially recordable video cassette.**
 - See page 26 for loading video cassettes.
2. **Press MENU button twice.**
 - MENU 2 is displayed in viewfinder.
3. **Use +/- buttons to align arrow with B.T.S.**
4. **Press SELECT button.**
 - The camera goes into high-speed search (page 46) while it finds the end of the recorded section of tape, then goes into record pause mode.
5. **Press start/stop button.**
 - Recording begins.

Notes:

- Press the MENU button to stop the blank tape search.
- Even if the video cassette is loaded at a nonrecorded section, the end of the recorded section will still be located and camera will go into record pause mode.
- The blank tape search function detects blank sections of tape which are at least one minute long. If the tape has such 1 minute blank sections in the middle of recorded sections, the camera will stop when it detects them.
- The last frame is displayed in the viewfinder for about 5 minutes as a still image. Then the camera goes into stop mode to protect internal parts from damage.
- When using the blank tape search function, make sure that the erasure prevention switch on the video cassette is in the recording possible position (see page 28 for information on the erasure prevention switch).
- When the blank tape search function is used, the end of the previously recorded scene may be erased when recording is resumed.
- When the blank tape search function is operated on a video cassette with no blank sections, the camera enters high-speed search to the end of the video cassette and stops (T. END is displayed in the viewfinder).



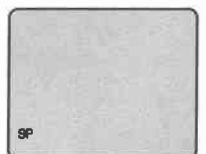
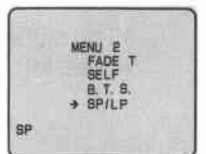
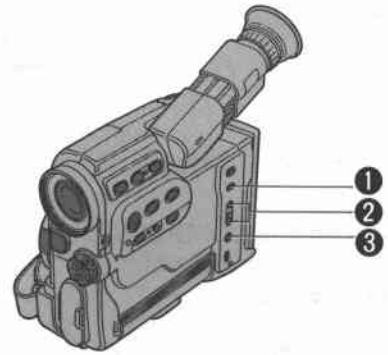
Selecting Tape Speed (CAMERA Mode) MENU 2

The camera has two recording speeds for normal or double recording time. For normal recording time and best picture quality, select SP (Standard Play). For double recording time, select LP (Long Play). During playback, the camera automatically selects the tape speed the video cassette tape was recorded in.

- ① MENU Button
- ② +/- Buttons
- ③ SELECT Buttons
- ④ Start/Stop Button

1. **Press MENU button twice.**
 - MENU 2 is displayed in viewfinder.
2. **Use +/- buttons to align arrow with SP/LP.**
3. **Press SELECT button to choose tape speed.**
 - Each time SELECT button is pressed, tape speed display in viewfinder changes to SP or LP.
4. **Press MENU button twice.**
 - Menu disappears from viewfinder.
5. **Press start/stop button.**
 - Recording begins.

To change tape speed, repeat steps 1-4 again.



Adding Titles to Recordings (CAMERA Mode)

The camera enables previously stored lettering and illustrations to be superimposed on scenes during recording. Two pages (2 full screens) of titling can be stored in the memory. The two titles can have different colours, shading, and appear transparent. They can be combined and/or wiped or scrolled in 4 directions to produce some truly interesting titles.

- ① **MODE/COLOUR Button**
- ② **DISPLAY Button**
- ③ **MEMO Button**

Creating Titles ①

1. **With no title displayed, press MODE/COLOUR button.**

- Each time button is pressed, title memory/display mode display in viewfinder changes as follows. Select titles to be stored in memory.

→ T1 → T2 → T1+2 → T1*2 →

T1: Title can be stored in memory 1.

T2: Title can be stored in memory 2.

T1+2, T1*2: Used only for title display.

2. **Point camera at image to be stored and press MEMO button.**

- The title is stored, and displayed on screen.

The stored title can be altered as follows:

Changing Colour/Reversing Image and Background

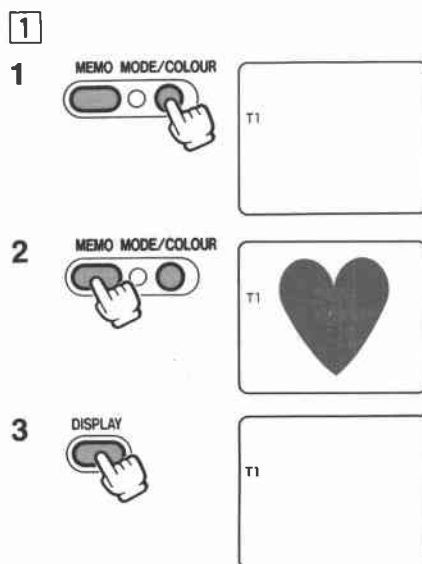
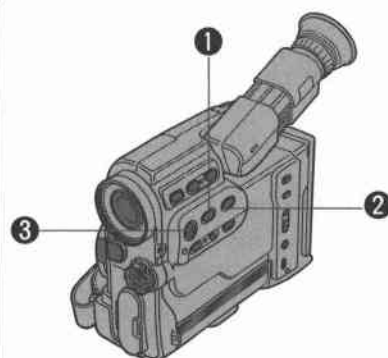
Adding Shadow

See-through

Scroll/wipe display

3. **Press DISPLAY button.**

- The stored title disappears from screen.
- Pressing DISPLAY button again recalls stored title.



Adjusting Image Density 2

Camera may have difficulty memorizing images with thin lines or weak contrast. In this case, press and hold MEMO button for more than three seconds to adjust image density (16 levels). Levels change continuously as follows:

→ Original Image → (8 levels) → Thickest → Thinnest → (8 levels) →

While monitoring using the screen, release MEMO button when the level has reached a suitable point. The title will be stored.

Titles written on white paper with a thick black pen will store without any problem.

2

Changing Colour/Reversing Image and Background 3

Titles can be created in 8 colours and title and background can be reversed.

1. While title is displayed on screen, press **MODE/COLOUR** button once or more.

- Each time button is pressed, title colour display in viewfinder changes as follows:

→ WHT → BLU → GRN → SKY → RED → VIO → YEL → BLK
 ← R.BLK ← R.YEL ← R.VIO ← R.RED ← R.SKY ← R.GRN ← R.BLU ← R.WHT ←

- "R" means reverse.

Adding Shadow 4

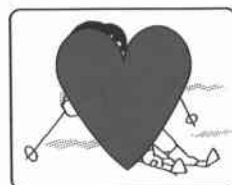
In the shadow mode, the title can be given a three-dimensional appearance.

1. While title is displayed on screen, press and hold **MODE/COLOUR** button for three seconds or more.

- To cancel shadow mode, again press and hold **MODE/COLOUR** button for three seconds or more.
- Title colour changes as soon as you press the **MODE/COLOUR** button.

Notes:

- Titles cannot be created:
 1. during recording
 2. during PLAY mode
- When a new title is stored, the previously stored title is erased.

34

See-through [5]

In the see-through mode, the title can be made to appear transparent on the screen.

1. While title is displayed on screen, press **MENU** button three times.

- MENU 3 is displayed in viewfinder.
- Make sure arrow is aligned with DT TINT.

2. Press **SELECT** button.

- <> is added to the title colour display in viewfinder.

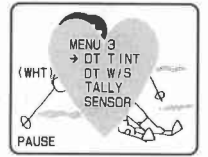
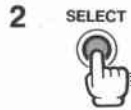
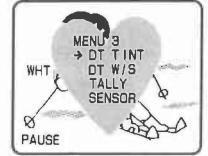
3. Press **MENU** button once.

- Menu disappears from viewfinder and title appears in see-through colour.
- To cancel see-through mode, repeat steps 1 and 2 and <> disappears from title colour display in viewfinder.

Note:

- Colour/reverse colour, shadow and/or see-through effects can be set when T1 or T2 is displayed, but not when T1+2 or T1*2 are displayed.

[5]



Scroll/Wipe Display

In scroll mode the title appears to flow over the screen. In wipe mode the title is displayed as though turning a page.

① Scroll

② Wipe

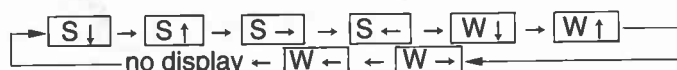
1. While title is displayed on screen, press MENU button three times.

- MENU 3 is displayed in viewfinder.

2. Use +/- buttons to align the arrow with DT S/W.

3. Press SELECT button.

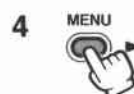
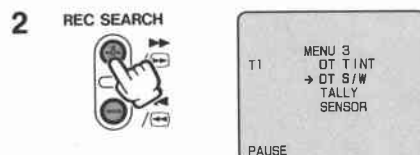
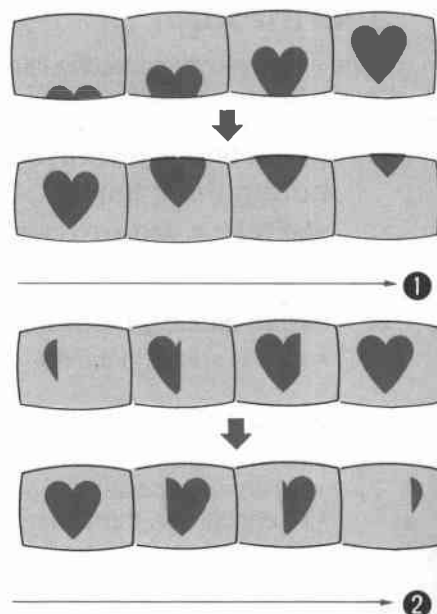
- Each time button is pressed, S or W appears with an arrow in viewfinder in the following order:



- S means scroll and W means wipe. Arrows indicate direction of scrolling or wiping.

4. Press MENU button once.

- Menu disappears from viewfinder.
- To cancel scroll/wipe mode, repeat steps 1-3 and S or W disappears from the viewfinder.
- If you press the DISPLAY button, the title will wipe or scroll.



Hints:

- When you select T1*2, by alternately displaying the first and second title pages, a simple two-frame animation effect can be achieved. When combined with the scroll or wipe mode, even more interesting titles can be created. Study the examples on pages 98-100 and make up your own interesting titles.
- When no title is displayed in the viewfinder and the DISPLAY button is pressed, the title appears in the viewfinder with a wipe or scroll effect (wipe-in, scroll-in).
When a title is displayed in the viewfinder and the DISPLAY button is pressed, the title disappears from the viewfinder with a wipe or scroll effect (wipe-out, scroll-out).

Notes:

- When using see-through mode for two pages of titles, select this mode for both pages.
If one page is set for normal display, the page for which the see-through effect was selected will also be displayed normally.
- If two pages of titles are to be displayed at the same time, one with shadow and the other with the see-through effect, both of the titles will be displayed normally.
- If the DISPLAY button is pressed and no title has yet been stored in the memory, a test title may be displayed. Press the DISPLAY button again to erase the title or to store a new one.
- A title stored in the memory is saved until a new title is stored.

Displaying Titles/Recording Titles (CAMERA Mode)

Titles can be displayed one at a time, two simultaneously, or alternately. It is possible to record the title with the scene by recording while a title is being displayed.

- ① **DISPLAY Button**
- ② **MODE/COLOUR Button**
- ③ **MEMO Button**

Selecting a Title for Display/Selecting a Title for Recording ¹

1. **When no title is displayed, press MODE/COLOUR button.**

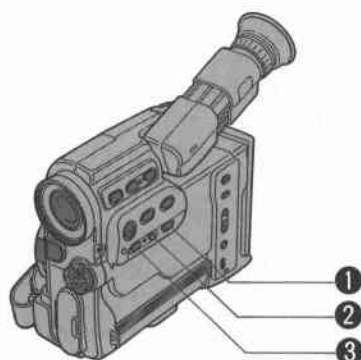
- Each time button is pressed, the title memory/display mode display in viewfinder will change as follows.

→ T1 → T2 → T1+2 → T1*2 →

- T1:** Press DISPLAY button to display title stored in memory 1.
- T2:** Press DISPLAY button to display title stored in memory 2.
- T1+2:** Press DISPLAY button to display titles stored in memory 1 and 2 together. When portions of the two titles overlap, T1 title is displayed.
- T1*2:** Press DISPLAY button to display titles in memory 1 and 2 alternately.

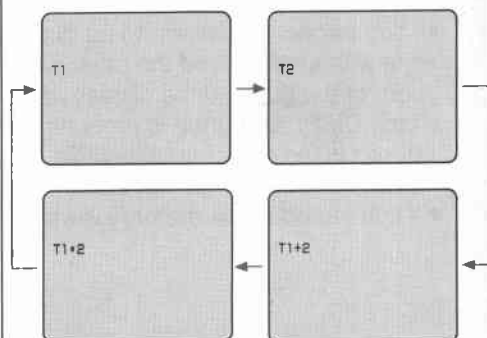
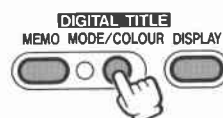
2. **Press DISPLAY button.**

- The selected title will be displayed.
- Press button again to make the title disappear from the viewfinder.

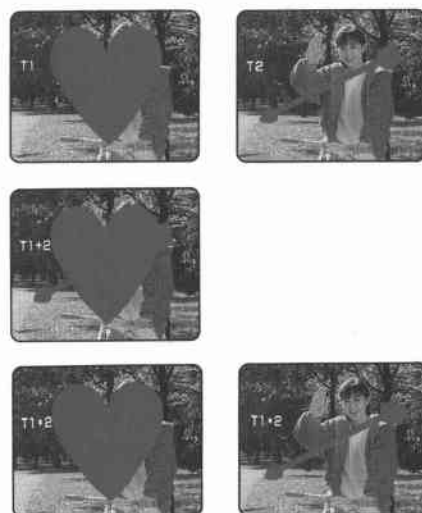
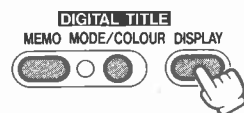


1

1



2



Recording a Title [2]

When a title is to be recorded it should be selected before starting the recording.

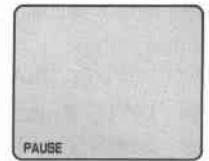
1. **Place camera in record pause mode.**
2. **Press start/stop button.**
 - Recording begins.
3. **Press DISPLAY button.**
 - The selected title mode is displayed and title is superimposed and recorded.
4. **To make the title disappear from the viewfinder, press DISPLAY button once more.**

Hint:

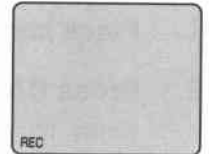
- The title can be included from the very beginning of the recording by pressing the DISPLAY button before the start/stop button is pressed.

[2]

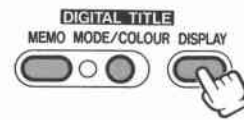
1



2



3



4



Recording Date and Time (CAMERA Mode)

By using auto date/time function, date and time of the recording can be included in the scene. Date and time can be recorded separately or together. They can also be included with a title.

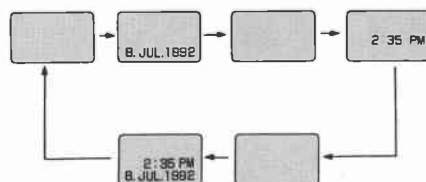
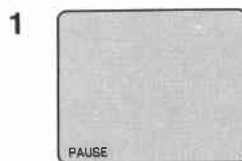
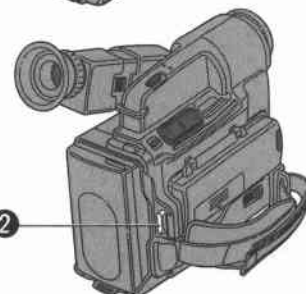
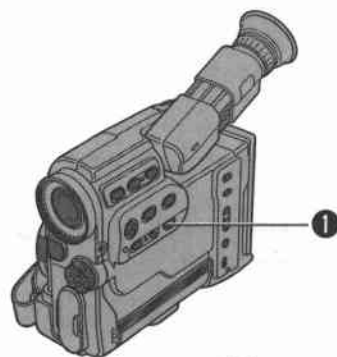
•For setting date and time (see page 24).

- ① DATE Button
- ② Start/Stop Button

1. Place camera in record pause mode.
2. Press DATE button and select display.
 - Each time button is pressed, display changes as shown at right.
3. Press start/stop button.
 - Recording begins.
 - Date and time are superimposed and recorded.

Hint:

- Date and time display is automatically activated in the paused PLAY mode (but not during playback).



Tally Lamp off Function (CAMERA Mode) MENU 3

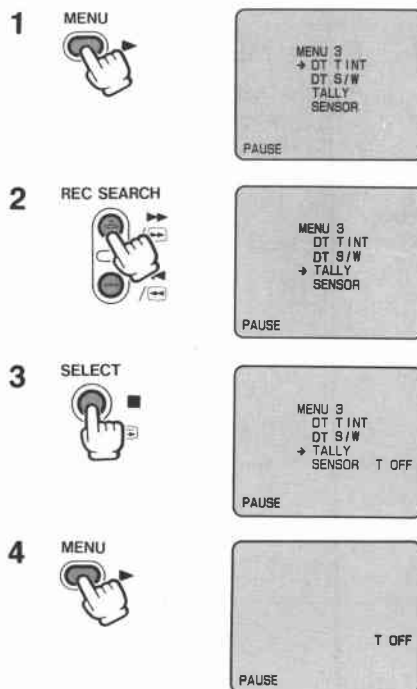
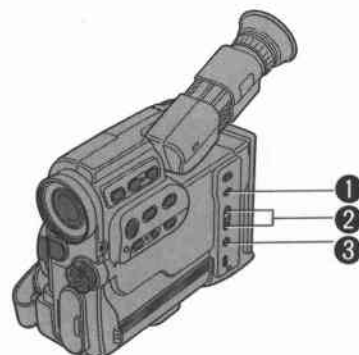
The tally lamp informs both operator and subject of camera operations. However, when recording through glass or recording close-ups, the flashing of the tally lamp may be reflected in glass or from the close-up subject. In such cases, it is possible to turn off the tally lamp so that it emits no light.

- ① MENU Button
- ② +/- Buttons
- ③ SELECT Button

1. Press MENU button three times.
 - MENU 3 is displayed in viewfinder.
2. Use +/- buttons to align arrow with TALLY.
3. Press SELECT button.
 - “T OFF” appears in viewfinder.
4. Press MENU button once.
 - Menu disappears from viewfinder.
 - To turn tally lamp on again, repeat steps 1-3 and “T OFF” disappears from the viewfinder.

Note:

- The tally lamp also lights when the remote sensor receives a signal from the wireless controller, even if the tally lamp off function is selected.



Remote Sensor off Function (CAMERA Mode) MENU 3

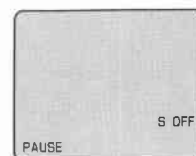
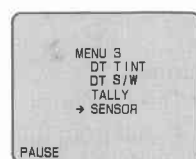
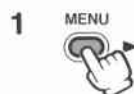
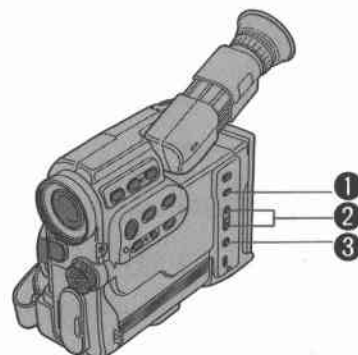
While using your camera, wireless controllers from other Canon video cameras being used nearby may affect your camera. In such cases, it is possible to turn the remote sensor off.

- ① MENU Button
- ② +/– Buttons
- ③ SELECT Button

1. **Press MENU button three times.**
•MENU 3 is displayed in viewfinder.
2. **Use +/– buttons to align arrow with SENSOR.**
3. **Press SELECT button.**
•“S OFF” appears in viewfinder.
4. **Press MENU button once.**
•Menu disappears from viewfinder.
•To turn remote sensor on again, repeat steps 1-3 and “S OFF” disappears from the viewfinder.

Note:

- The remote sensor off function operates only in CAMERA mode. When in PLAY mode, the camera will respond to Canon wireless control signals.



Using an External Microphone 1

When recording in quiet places, the sound of the camera operation may be picked up by the camera's internal microphone. For better sound quality an external microphone can be attached, as shown.

The external microphone is attached to the camera with the optional SA-1 Shoe Adapter (see page 89).

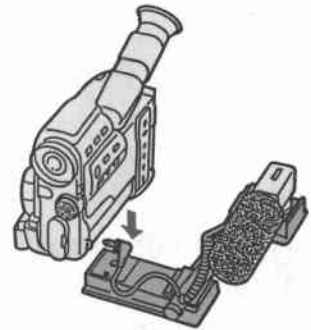
1. **Attach microphone to camera using the SA-1.**
 - For further details, refer to SA-1 instruction manual.
2. **Connect external microphone plug to MIC terminal on camera.**

Notes:

- When using a microphone other than the DM-300 or MM-100, use only a monaural microphone with its own power source.
- When using an external microphone, the automatic wind screen function does not operate.

1

1



2



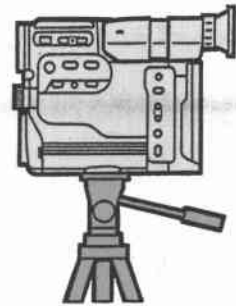
Using a Tripod 2

It is recommended that the camera be attached to a tripod for recording in the following situations.

- Telephoto recording
- Self-timer recording
- When the wireless controller is being used

Notes:

- Video cassettes cannot be loaded or unloaded when the camera is mounted on a tripod.
- Avoid direct sunlight entering the viewfinder. The lens concentrates the rays which then melt the viewfinder casing.
- When using a tripod, make sure that the fastening screw is no longer than 6.5 mm. A screw longer than 6.5 mm will damage the camera. ①

2

Editing to Another VTR (PLAY Mode)

With the help of a second VTR, your camera can also be used as a playback VTR to edit your recording.

Connection Procedure

You need the DC-100 DC Coupler, CA-100 Compact Power Adapter (or CB-110 Car Battery Adapter) and C-150 AV Cable (option).

Using VTR with Audio/Video Input Terminals 1

1. **Connect audio/video terminals of camera (audio = black; video = yellow) to audio/video input terminals of second VTR using the optional C-150 AV Cable (audio = white; video = yellow).**

- If VTR has a BNC-type video input terminal, attach a commercially available BNC adapter to C-150 AV Cable.

- 1 To Video Terminal (yellow)
- 2 To Audio Terminal (black)
- 3 C-150
- 4 To Audio Input
- 5 To Video Input
- 6 BNC Adapter (commercially available)
- 7 Second VTR (recording)

Preparations

TV 2

Turn TV on and set TV to video channel, or set TV/VTR selector to VTR.

VTR 3

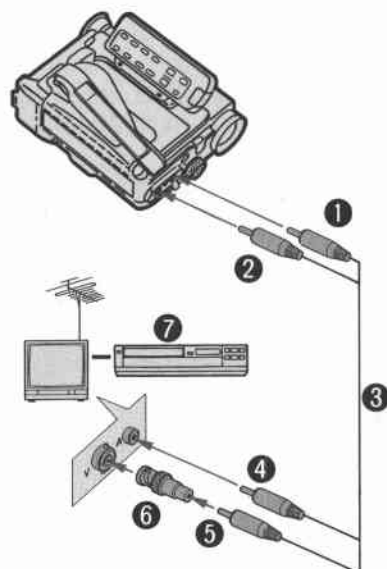
Turn on second VTR and load a recordable video cassette. See VTR instruction manual for details.

CAMERA 4

Turn camera on and load video cassette for playback. Press MODE SELECT button to select PLAY mode.

Note:

- Both image and sound quality of edited tape will be somewhat less than that of the original.

1

2

3

4


Editing Procedure [5]

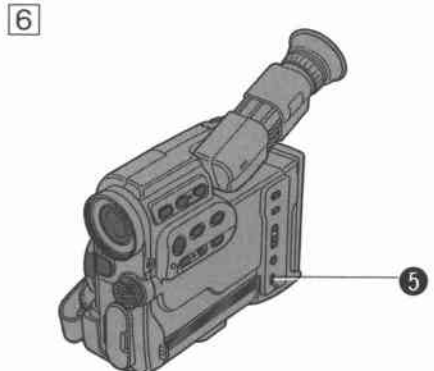
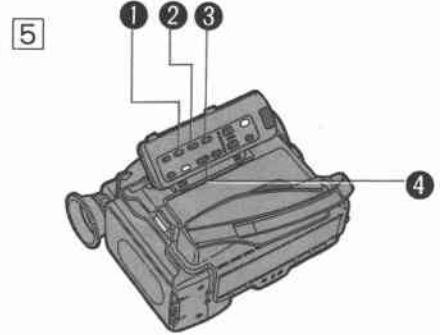
- ① REW Button
- ② PLAY Button
- ③ FF Button
- ④ STOP Button

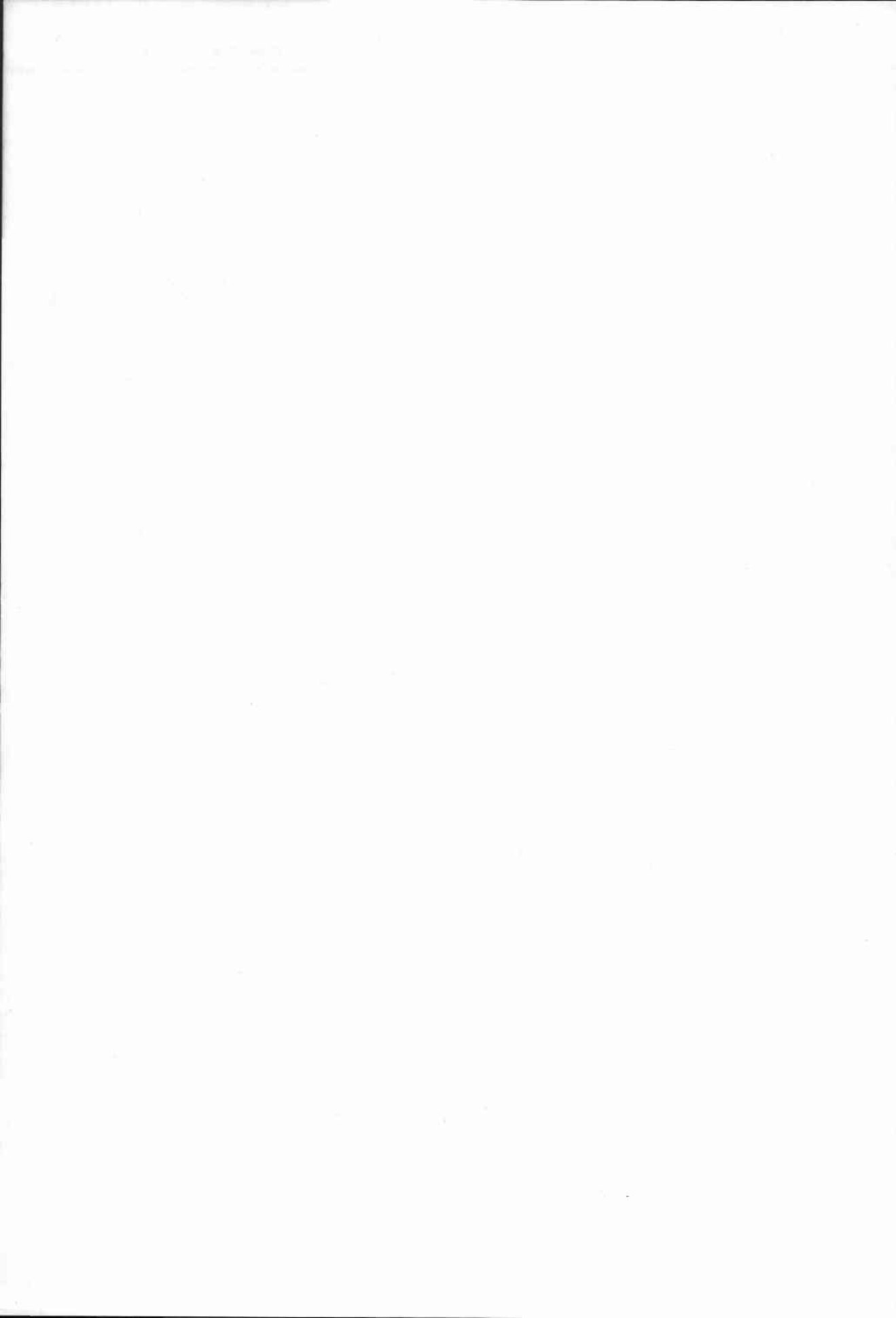
1. **Locate a point slightly ahead of editing start point on video cassette in camera.**
2. **Set second VTR to record pause mode.**
 - Select LINE IN mode on second VTR.
3. **Press camera ► (PLAY) button.**
 - Check playback picture on TV screen.
4. **Release second VTR from record pause mode at editing start point.**
 - Recording begins on second VTR.
5. **Press ■ (STOP) button on camera and second VTR to end editing.**

EDIT Switch [6]

To minimize the loss of picture quality, set the EDIT switch to ON only when the camera is used as a playback VTR during editing. Normally, keep the EDIT switch set to OFF.

- ⑤ EDIT Switch

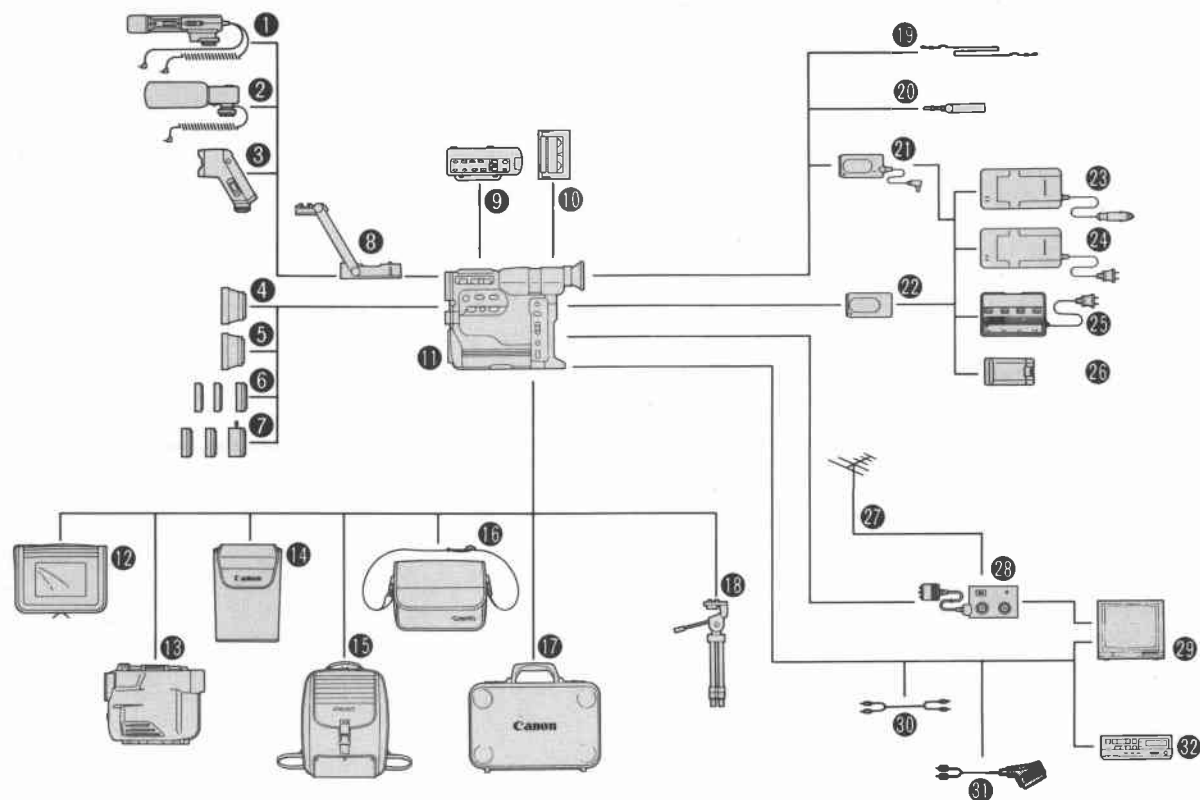






Additional Information

Canon UC10 Video System Chart



- ① MM-100 Mixing Microphone
- ② DM-300 Super-directional Microphone
- ③ VL-20 Battery Video Light
- ④ WD-37 Wide Converter
- ⑤ TL-37 Tele-converter
- ⑥ FS-37U Filter Set
- ⑦ FS-37 Filter Set
- ⑧ SA-1 Adapter Bracket
- ⑨ WL-1 Wireless Controller
- ⑩ 8mm Video Cassette
- ⑪ UC10
- ⑫ RS-U1 Rain Shield
- ⑬ SK-U1 Sports Pack
- ⑭ SJ-U1 Soft Video Jacket
- ⑮ VK-U1 Video Backpack
- ⑯ SC-U1 Soft Carrying Case

- ⑰ HC-U1 System Case
- ⑱ Tripod
- ⑲ SS-200 Shoulder Strap
- ⑳ WS-20 Wrist Strap
- ㉑ DC-100 DC Coupler
- ㉒ BP-E77K/BP-E722 Battery Pack
- ㉓ CB-110 Car Battery Adapter
- ㉔ CA-100 Compact Power Adapter
- ㉕ MC-100 Multi-battery Charger
- ㉖ BT-U1 Battery Case
- ㉗ Aerial
- ㉘ RU-100 RF Unit
- ㉙ TV
- ㉚ C-150 AV Cable
- ㉛ PC-150 SCART Cable
- ㉜ VTR

Optional Accessories

HC-U1 System Case 1

The optional HC-U1 System Case stores and helps protect the camera and its accessories during transportation and storage.

Items Stored in the System Case

The following items can be stored:

- 1 TL-37 Tele-converter or WD-37 Wide Converter or a filter set
- 2 Two battery packs
- 3 One additional video cassette
- 4 RU-100 RF Unit
- 5 Cables
- 6 Camera with video cassette, shoulder strap/wrist strap
- 7 CA-100 Compact Power Adapter (or CB-110 Car Battery Adapter)
- 8 DC-100 DC Coupler

Opening and Closing Case

To open, place the case so that the UP sign is on top, then slide the two locks toward the outside.

Notes:

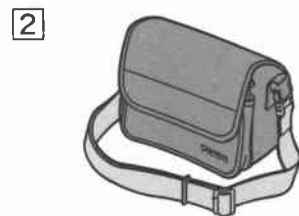
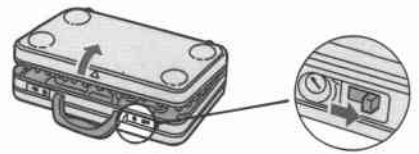
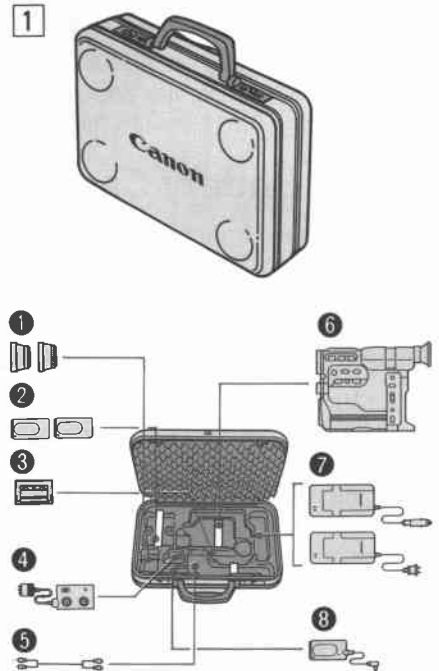
- Do not leave the case in areas of extreme heat.
- Do not expose the case to strong vibrations or shock.
- Do not place heavy objects on top of case.
- Two keys are provided with the HC-U1 System Case.
- Power is slowly drained while the battery pack is attached to the camera, even when the camera is turned off. Remove the battery pack when you don't expect to use the camera.

SC-U1 Soft Carrying Case 2

The optional SC-U1 Soft Carrying Case provides lightweight protection for the camera and accessories.

VK-U1 Video Backpack 3

The optional VK-U1 Video Backpack is a handy portable case for transporting camera and accessories. Its full-length zipper opening allows the contents to be put in and taken out easily.



CB-110 Car Battery Adapter [4]

For recording using car battery.

Plug into cigarette lighter socket.

For use only with 12 or 24 V DC negative ground car battery.

BT-U1 Battery Case (available soon) [5]

Six AA alkaline batteries can be loaded in this battery case for the camera power supply.

•Use in cold locations is not recommended.

MC-100 Multi-battery Charger [6]

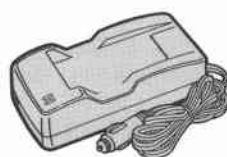
MC-100 Multi-battery Charger is a sequential high-speed charger controlled by a microcomputer for charging up to four Canon battery packs. Also the MC-100 automatically performs charging, discharging and recharging to refresh battery packs.

•Charging time: 45 min. (BP-E77K)
90 min. (BP-E722)

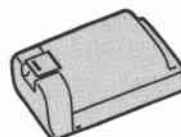
BP-E722 Battery Pack [7]

Use for lengthy recording. Its continuous recording time is approximately 130 minutes. Hold the camera with both hands when using this battery.

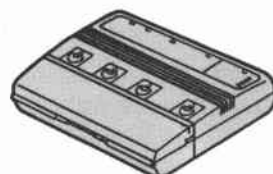
[4]



[5]



[6]



[7]



SJ-U1 Soft Video Jacket [8]

The SJ-U1 Soft Video Jacket, designed for convenient transportation of the camera, protects it from dust and scratches.

RS-U1 Rain Shield [9]

A vinyl cover to protect the camera from light rain or mist.

SK-U1 Sports Pack (available soon) [10]

The SK-U1 Sports Pack permits underwater recording as deep as 1 m and makes recording in various places such as sea or ski resorts possible.

SA-1 Adapter Bracket [11]

Use to attach an external microphone or a battery video light to the camera.

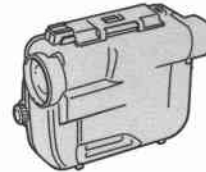
[8]



[9]



[10]



[11]



MM-100 Mixing Microphone 12

The MM-100 enables sound from the microphone and music to be mixed.

DM-300 Super-directional Microphone 13

Enables effective recording of distant sound and specifically targeted sound.

VL-20 Battery Video Light 14

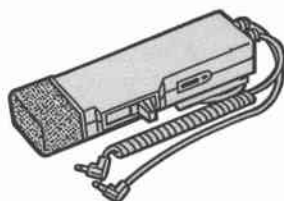
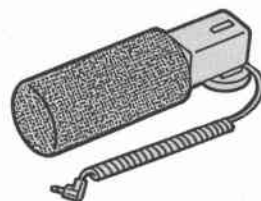
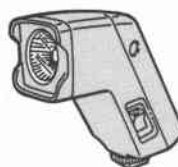
This light, compact option uses the BP-E77K or BP-E722 Battery Pack and is ideal for indoor or outdoor shooting.

TL-37 Tele-converter 15

This optional tele-converter is a magnification converter lens that increases the focal length of the camera lens by a factor of 1.4.

WD-37 Wide Converter 16

This optional wide converter decreases the focal length by a factor of 0.75.

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FS-37U Filter Set 17

The optional FS-37U Filter Set contains three filters: UV, ND8 and circular PL.

- If a filter is used when shooting in wide-angle end, vignetting will occur at periphery of picture (edge of picture becomes dark and blurred).

FS-37 Filter Set 18

The optional FS-37 Filter Set contains three filters: multiple-image filter 5X, R-cross filter 6X and zoom spot filter.

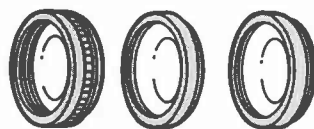
- If a filter is used when shooting in wide-angle end, vignetting will occur at periphery of picture (edge of picture becomes dark and blurred).

Use power focus when using these filters.

WS-20 Wrist Strap 19

The optional wrist strap provides an extra measure of protection for active shooting.

17



18



19



Cautions

During Use

Avoid High Temperatures and High Humidity.

Do not expose the camera to high temperature or high humidity, such as inside a car during hot weather, when all the doors and windows are shut. Such exposure can cause damage.

Avoid Exposure to Strong Electromagnetic Waves.

Do not use the camera close to sources of magnetic or electric fields (power plant, TV tower, TV set, magnets, motors, audio equipment, etc.).

Do Not Expose the Camera to Rain or Water.

Place protective covering over the camera if you'll be recording in the rain. If, somehow, water does get into the camera, contact qualified service personnel as soon as possible.

Avoid Pointing the Lens into Direct Sunlight or Other Strong Light Sources.

Do not aim the lens directly at the sun or other strong light, or leave the lens aimed at a subject with great brightness since this can cause damage.

Do Not Expose the Camera to Excessive Heat.

When using lighting equipment, be sure not to expose the camera to too much heat radiating from such equipment.

Always Replace the Lens Cap.

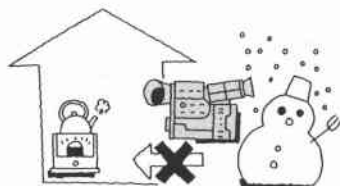
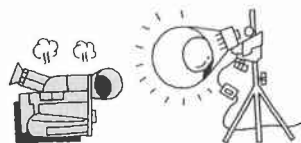
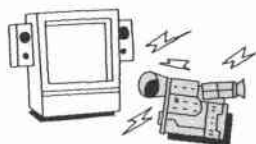
Always replace the lens cap after use to prevent sand and dust from getting on the lens. Be especially careful to affix the cap on windy days.

Avoid Sudden Changes in Temperature.

If the camera is suddenly brought into a warm place from a cold place, condensation can form on the internal parts and lens. So take appropriate care when moving the camera.

Do Not Expose the Camera to Shock or Vibrations.

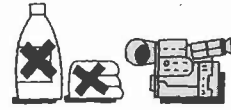
Be sure to handle camera gently. Vibration or shock can cause damage.



Maintenance

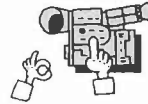
Keep the Heads Clean.

The video heads should be cleaned only when necessary, preferably with the Canon 8mm Video Head Cleaning Cassette CC-8 included in the optional Canon 8mm Video Cleaning Kit CK-E1.



Clean the Camera with a Soft, Dry Cloth.

The camera should be cleaned using a soft, dry cloth. Do not use chemically treated cloth or volatile solvent such as paint thinner, since this can damage the camera.



Store Camera Properly.

If you do not intend to use the camera for some time, store it in an area free of moisture and dust, and where ambient temperature is no higher than 30°C.

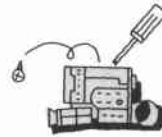


Check the Operation of Each Component.

If the camera has not been used for a long time, be sure to check that each component functions correctly before use.

Store Cassette Tape Properly.

Do not place video cassettes in areas exposed to direct sunlight, near heat-radiating sources such as stoves, or close to magnetic bodies such as speakers, since these can cause tape deformation and damage to valuable recordings.



Safety Precautions

Do Not Disassemble the Camera.

It is very dangerous to disassemble the camera or touch any of its internal parts. If the camera does not function properly, take it to qualified service personnel.

Using the Battery Pack.

Carefully read the instructions of the battery pack before use.

Problems and Troubleshooting

Use the following checklist for troubleshooting when you have problems with your camera. Consult your local dealer or service outlet if problems persist.

Be sure all connections are properly made when using the camera with other units.

Problem	Cause	Remedy
Camera does not turn on.	Battery pack charge is low.	Replace with fully charged battery pack.
Camera turns off during operation (using battery pack).	Battery pack charge is low.	Replace with fully charged battery pack.
	Record pause mode has lasted for more than five minutes.	Turn camera on again.
Video cassette compartment does not open.	Battery pack charge is low.	Replace with fully charged battery pack.
Camera does not function when an operation button is pressed.	Camera is turned off.	Turn camera on.
	Video cassette is not loaded.	Load a video cassette.
	Battery pack is not properly attached to camera.	Attach battery pack securely to camera (see p. 16).
CAMERA or PLAY indicator flashes and "BATT" flashes in viewfinder.	Battery pack charge is low.	Replace with fully charged battery pack.
CAMERA or PLAY indicator flashes and "DEW" flashes in viewfinder.	Condensation has formed inside unit.	Refer to Condensation (see p. 96).
CAMERA or PLAY indicator flashes and "EJECT" flashes in viewfinder.	Safety mechanism is activated.	Unload and reload video cassette.
"DATE" flashes in viewfinder. Date and time are incorrect or have stopped operating.	Internal lithium battery is discharged.	Attach a power source (see p. 16).
Start/stop button is pressed, but recording does not start.	Camera is turned off.	Turn camera on.
	Video cassette is not loaded.	Load a video cassette.
	Tape has ended ("T. END" appears in viewfinder).	Rewind tape or use another video cassette.
	Erase prevention switch on video cassette is set to prevent recording ("TAPE" flashes in viewfinder).	Use another video cassette or set switch to enable recording (see p. 28).
No picture appears in viewfinder.	Camera is in PLAY mode.	Press MODE SELECT button.
	Lens cap is attached.	Remove lens cap.
	Camera is in PLAY mode.	Press MODE SELECT button.

Note:

This equipment contains a microprocessor. If external noise or interference occurs, random letters may appear in the viewfinder or normal operation may be interrupted. In this case, remove the power source and then replace it in the camera again.

Problem	Cause	Remedy
Cannot adjust focus.	Subject is not suitable for autofocus.	Adjust focus in manual focus mode.
	Viewfinder diopter is not properly adjusted.	Turn diopter adjustment ring until viewfinder display becomes clear (see p. 23).
	Lens is dirty.	Clean the lens using a dry, soft cloth with due care not to scratch it.
	Finder is not pulled out.	Pull finder out.
Wireless controller does not operate.	SENSOR OFF mode is selected.	Cancel SENSOR OFF mode.
Tally lamp does not light or flash.	TALLY OFF mode is selected.	Cancel TALLY OFF mode.
Playback doesn't start when ▶ (PLAY) button is pressed.	Camera is in CAMERA mode.	Press MODE SELECT button.
	Camera is turned off.	Turn camera on and press MODE SELECT button.
	Video cassette is not loaded.	Load a video cassette.
	Tape has ended ("T. END" appears in viewfinder).	Rewind tape or use another video cassette.
Tape is moving, but no picture appears on TV monitor.	For TV without audio/video input terminals: Video channel is not set properly on both TV and RF unit.	Set TV and RF unit to appropriate video channel.
	For TV with audio/video input terminals: TV/VIDEO selector on TV is not set to VIDEO.	Set TV/VIDEO selector to VIDEO.
	Video heads are dirty.	Clean video heads using optional CK-E1 8mm Video Cleaning Kit.

Playback appears rough

Although the TV program has been cleanly copied, the video playback appears rough. This is due to dirty video heads. Video heads should be cleaned using the optional CK-E1 8mm Video Cleaning Kit. For further details, refer to the CK-E1 instruction manual.



Condensation (DEW)

What is condensation?

Condensation or dew means tiny droplets of water that occasionally form on the camera surface when it is moved from a cold place to a warm place. Using the camera when condensation is present may damage both tape and camera.

Preventing condensation

Remove video cassette and place camera in a plastic bag prior to bringing it into a warm area where condensation is likely to occur. Wait until camera reaches room temperature before removing it from the bag.

When condensation is detected 1

When condensation is detected in the camera, the CAMERA or PLAY indicator flashes, and "DEW" flashes in the viewfinder. If a video cassette is loaded, "EJECT" flashes in the viewfinder and the tape automatically stops. Immediately remove video cassette, leave video cassette compartment open and turn camera off. Leave camera in a dry place until condensation evaporates.

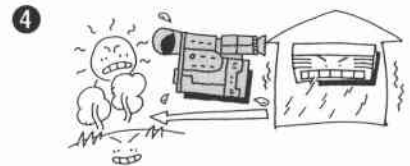
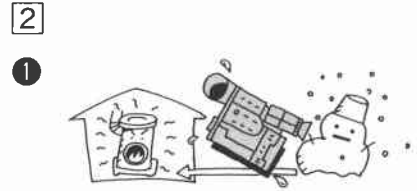
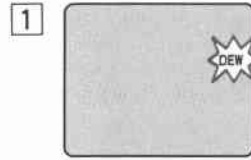
- Sometimes "DEW" may not appear in the viewfinder until 10-15 minutes after dew has formed.
- You cannot load a video cassette when condensation is detected in the camera.

To start using camera again

Even when "DEW" and the CAMERA or PLAY indicator no longer flash when the camera is turned on, wait at least one more hour before attempting operation. The time required for condensation to clear varies with surrounding conditions; it can be as long as one hour.

Condensation is likely to occur when: 2

- 1 Camera is brought from a cold place to a warm place.
- 2 A cold room is heated rapidly.
- 3 Camera is placed in a humid room.
- 4 Camera is taken from an air-conditioned room to a warm and humid place.



Specifications

UC10

Power supply (rated):	6 V DC
Power consumption:	4.9 W during recording in autofocus mode (not using power zoom)
Television system:	CCIR standard (625 lines, 50 fields) PAL colour signal
Video recording system:	4 rotary heads, helical scanning system Luminance signal: FM azimuth recording Colour signal: Converted subcarrier phase shift recording (8mm video standard)
Audio recording system:	Frequency multiplexing with the video signal by 4 rotary heads (one channel)
Image sensor:	1/3-inch CCD (Charge Coupled Device) 320,000 pixels (300,000 effective pixels)
Tape format:	8mm, metal particle*
Tape speed:	20.051 mm/s (SP) 10.026 mm/s (LP)
Maximum recording time:	3 hours with P5-90 video cassette, in LP mode
Lens:	f/1.8, 8X power zoom, 6-48 mm focal length
Focusing system:	TTL autofocus, manual focusing possible (using power focus buttons)
Minimum focusing distance:	10 mm wide-angle end 0.7 m telephoto end 0.9 m intermediate zoom position
Minimum illumination:	3 lux (with gain-up function)
Filter diameter:	37 mm
Electronic viewfinder:	0.5-inch monochrome CRT
Microphone:	Nondirectional electret condenser microphone
Input level:	Audio: -64 dBV/600 ohms, unbalanced (external mic)
Output level:	Video: 1 Vp-p/75 ohms, unbalanced (video terminal); Audio: -10 dBV/less than 3 kohms, unbalanced (audio terminal)
Dimensions (W×D×H):	79×161×139 mm
Weight:	580 g excluding battery pack and wireless controller

RF Unit RU-100

European model

Power source:	5 V DC
Power consumption:	40 mA (max.)
RF output:	30-39 selectable
Dimensions (W×D×H):	75×30.4×51 mm
Weight:	200 g

Australian model

Power source:	5 V DC
Power consumption:	35 mA (max.)
RF output:	0 CH/1 CH selectable
Dimensions (W×D×H):	75×34.5×51 mm
Weight:	150 g

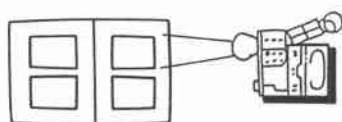
*Canon recommends metal particle tape.

Weight and dimensions are approximate. Errors and omissions excepted.
Subject to change without notice.

Creating an Animated Title

By alternately displaying the first and second pages of the titles, a simple two-frame animation effect can be achieved.

Record the illustrations so that the border lines do not appear inside the viewfinder.





Canon

CANON INC. 7-1, Nishi-Shinjuku 2-Chome, Shinjuku-ku, Tokyo 163, Japan
Mailing address: P.O. Box 5050, Dai-ichi Seimei Building, Tokyo 163, Japan

Canon Europa N.V.

P.O. Box 2262, 1180 EG Amstelveen, The Netherlands

Canon UK Ltd.

Units 4, 5 & 6, Brent Trading Centre, North Circular Road, London NW10 0JF, United Kingdom

Canon Australia Pty. Ltd.

1 Thomas Holt Drive, North Ryde, N.S.W. 2113, Australia

Canon New Zealand Ltd.

Fred Thomas Drive, Takapuna, P.O. Box 33-336, Auckland, New Zealand

Canon Singapore Pte. Ltd.

#13-01/15 Pidemco Centre, Singapore 0105

Canon Hongkong Trading Co., Ltd.

10/F Mirror Tower, 61 Mody Road, Tsimshatsui East, Kowloon, Hong Kong

Canon Latin America, Inc.

DEPTO DE VENTAS Apartado 7022, Panamá 5, República de Panamá

CENTRO DE SERVICIO Y REPARACION Apartado 2019, Zona Libre de Colón, República de Panamá

Recording

(For more information, see Camera Recording, pages 32-33).

Before recording, be sure to charge the battery pack.

1 Attach battery pack.

2 Turn camera on.

3 Lift wireless controller, slide UNLOCK switch and open video cassette compartment cover.

- With the cover open, the EJECT button is visible.

4 Press EJECT button.

5 Load video cassette and close video cassette compartment.

- Press wireless controller down until it clicks and attaches securely to video cassette compartment cover.

6 Pull out finder in the direction of the arrow.

7 Press start/stop button.

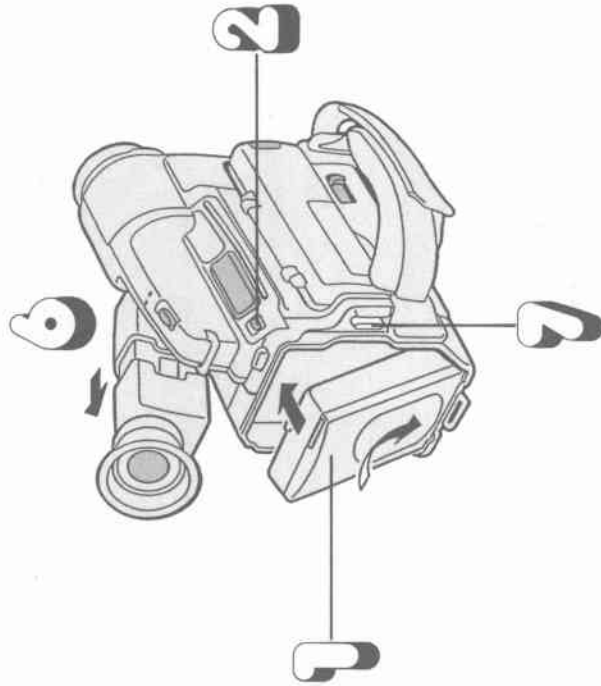
- "REC" appears in viewfinder.
- To temporarily stop recording, press start/stop button again.

To resume recording:

- Press start/stop button again.

To end operation:

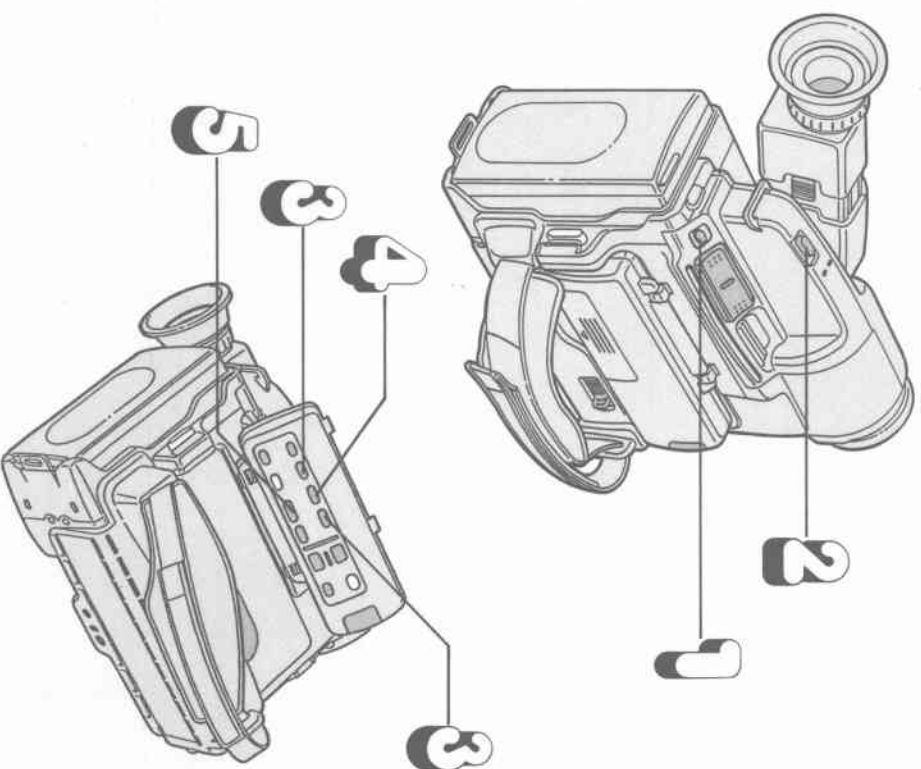
- Follow steps 3 and 4 to unload video cassette, then turn off camera.



Quick Reference for Recording and Playback

Playback

You can play back recorded video cassettes immediately after recording. (For details, see pages 44-45)



1 Turn camera on.

2 Press MODE SELECT button to select PLAY mode.
You must complete this step to begin playback.

- Play indicator (green) lights up.

3 Locate playback starting point.

- Use ►► (FF) or ◀◀ (REW) buttons to locate starting point or use fast forward/rewind playback or high-speed search (see page 46).

4 Press ► (PLAY) button to start playback.

5 Press ■ (STOP) button to end playback.

- For loading and unloading video cassettes, follow steps 3 and 4 of "Recording".
- To play back on a TV, see pages 38-43.